1989

On the relationships between communication strategies and language proficiency: a study of Chinese ESL students

Hui-tsen Jeanne Tuan

Iowa State University

Follow this and additional works at: https://lib.dr.iastate.edu/rtd

Part of the Chinese Studies Commons, First and Second Language Acquisition Commons, Reading and Language Commons, South and Southeast Asian Languages and Societies Commons, and the Speech and Rhetorical Studies Commons

Recommended Citation


https://lib.dr.iastate.edu/rtd/17316

This Thesis is brought to you for free and open access by the Iowa State University Capstones, Theses and Dissertations at Iowa State University Digital Repository. It has been accepted for inclusion in Retrospective Theses and Dissertations by an authorized administrator of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.
On the relationships between communication strategies and language proficiency: a study of Chinese ESL students

by

Hui-tsen Jeanne Tuan

A Thesis Submitted to the Graduate Faculty in Partial Fulfillment of the Requirements for the Degree of MASTER OF ARTS

Department: English
Major: English (Teaching English as a Second Language)

Signatures have been redacted for privacy

--- University
Ames, Iowa

1989
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER I. INTRODUCTION</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER II. THE STUDY OF COMMUNICATION STRATEGY - LITERATURE REVIEW</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empirical Studies of Communication Strategy</td>
<td>11</td>
</tr>
<tr>
<td>Factors Affecting the Choice of Communication Strategy</td>
<td>14</td>
</tr>
<tr>
<td>Pilot Study</td>
<td>20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER III. THE STUDY</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>22</td>
</tr>
<tr>
<td>Subjects</td>
<td>22</td>
</tr>
<tr>
<td>Instruments</td>
<td>23</td>
</tr>
<tr>
<td>Task Design</td>
<td>24</td>
</tr>
<tr>
<td>Communicative task</td>
<td>24</td>
</tr>
<tr>
<td>Choice of items</td>
<td>27</td>
</tr>
<tr>
<td>Procedure</td>
<td>29</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER IV. TAXONOMY OF COMMUNICATION STRATEGY</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxonomy of CS</td>
<td>31</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER V. QUANTITATIVE ANALYSIS OF THE DATA</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliabilities and Descriptive Statistics</td>
<td>47</td>
</tr>
<tr>
<td>Relationships between Communication Strategy and Language Proficiency</td>
<td>47</td>
</tr>
<tr>
<td>Choice of CS</td>
<td>47</td>
</tr>
<tr>
<td>Summary - interlingual approach</td>
<td>51</td>
</tr>
</tbody>
</table>
CHAPTER I. INTRODUCTION

During the last decade, in the field of second/foreign language (henceforth L2) learning and language pedagogy, intensive research has begun to focus on communicative language teaching, which involves teaching the L2 for the purpose of communication with native speakers of the target language (henceforth TL). It is crucial to try to determine the nature of communication and its relationship to language proficiency assessment. According to John Austin (1962; cited in Brown 1987:202), communication can be regarded as a series of communicative acts or speech acts, which are used systematically to accomplish particular purposes. Morrow (1977) furthered the description of the features of communication which were, in turn, later reformulated in Canale (1983:111) as follows: communication

1. is interaction - based in that communication skills are normally both acquired and used in social interaction;

2. involves unpredictability and creativity in both form and message;

3. takes place in discourse and sociocultural contexts which provide constraints on appropriate language use and also clues as to correct interpretations of utterances;

4. is carried out under limiting psychological and other conditions such as memory constraints, fatigue, and distractions;
5. always has a purpose (for example, to establish social relations, to persuade, or to promise);

6. involves authentic as opposed to textbook-contrived language; and

7. is judged as successful or not on the basis of actual outcomes.

In a further interpretation, Canale and Swain (1980:29) regard communication as the "exchange" that involves the negotiation of social meaning between at least two participants through the use of "verbal and non-verbal symbols, oral and written modes, and production and comprehension skills".

The central and most important theoretical principle of communicative language teaching is communicative competence, a term first used by Dell Hymes (1972). Enlarging upon the limited notion of Chomsky's (1965) 'competence', communicative competence refers to a speaker's knowledge about the social and functional rules of a language. In other words, communicative competence can be interpreted as "that aspect of our competence that enables us to convey and interpret messages and to negotiate meanings interpersonally within specific contexts" (Brown 1987:199). On the other hand, contrary to Chomsky's proposed definition, Savignon (1983) considers communicative competence to be a "dynamic,
interpersonal construct" rather than an intrapersonal one.

By bringing together various viewpoints about communicative language teaching, Canale and Swain (1980) suggest that communicative competence is comprised of at least three components: grammatical competence, sociolinguistic competence, and strategic competence. Canale (1983:7-11) further expands and clarifies the framework to include a fourth competence: discourse. He defines the four competences as follows:

**Grammatical competence**—Concerned with mastery of features and rules of the language, such as word formation, sentence formation, vocabulary, pronunciation, and spelling.

**Sociolinguistic competence**—The extent to which utterances are produced and understood in different sociolinguistic contexts. Appropriateness refers to both meaning and forms.

**Discourse competence**—Mastery of how to combine grammatical forms and meanings to achieve a unified spoken or written text in different genres. (By genre is meant type of text, such as oral or written narrative, a scientific report, a business letter, etc.)

**Strategic competence**—Mastery of verbal and non-verbal communication strategies that may be called into action for two main reasons: 1) to compensate for breakdowns in communication; and 2) to enhance the effectiveness of communication (pp. 7-11).

In order to provide a broad basis for language testing, language teaching, and language acquisition research (Bachman, 1987:1), Bachman proposes a framework of communicative language ability (CLA) which includes three
areas of competence: language competence, strategic competence, and psychophysiological mechanisms (see Figure 1).

In the Canale and Swain's and Bachman's frameworks, strategic competence, which occupies a special place in the understanding of communication, is included as a separate element of communicative competence. Savignon (1983:40-41) interprets Canale and Swain's concept as the strategies of "paraphrase, circumlocution, repetition, hesitation, avoidance, and guessing"; one uses these to "compensate for imperfect knowledge of rules - or limiting factors in their application such as fatigue, distraction, and inattention." According to Paribakht (1985), strategic competence is acquired in an individual's L1 and may develop with one's increasing language experience. She emphasized that this competence can be transferred to other language learning and language use situations.

Central to the definition of strategic competence is the notion of communication strategy (henceforth CS). Several articles, in different ways, have attempted to define the area of CS and to classify the various types of strategies. Based on the tradition of error analysis, Tarone, Cohen, and Dumas (1976:80) define CS as
Figure 1. A framework for describing communicative language ability (Bachman 1987)
"a systematic attempt by the learner to express or decode meaning in the target language, in a situation where the appropriate system target language rules have not formed."

Later, in a more "interactional" definition, Tarone (1981:288) regards CS as "the mutual attempt by two interlocutors to agree on a meaning in situations where the requisite meaning structures do not seem to be shared." According to Tarone, CS are cooperative in nature, which implies that both the communicative problem and its solution must surface in the performance; moreover, CS are used to compensate for some lack in the linguistic system, and focus on exploring alternate ways of using what one does know for the transmission of a message, without necessarily considering situational appropriateness.

From a 'psycholinguistic' perspective, Faerch and Kasper (1980:36) define CS as "potentially conscious plans for solving what to an individual presents itself as a problem in reaching a particular goal." According to Faerch and Kasper, the communicative problems experienced by the learner may be in speech reception and in the planning and execution of speech production. Unlike Tarone's proposition, Faerch and Kasper suggest that the CS used by the learner may be or may not be cooperative;
that is, the learner may try to solve his communicative problem through appealing for assistance from his interlocutor, or he may try to solve his problem by himself without the assistance of his interlocutor. Faerch and Kasper (1984) propose that CS defined in interactional terms form a subset of what are considered strategies on the basis of the psycholinguistic definition. Faerch and Kasper (1984) propose that CS defined in interactional terms form a subset of what are considered strategies on the basis of the psycholinguistic definition. Faerch and Kasper (1983:234) visualize the use of strategies as in Figure 2.

The shaded subset has the following characteristics:

(a) the learner’s problem is marked in his performance, either by an implicit/explicit signal of uncertainty or by a direct appeal;

(b) the signal is interpreted by the interlocutor as an appeal;

(c) the interlocutor acts in a cooperative manner and helps learner communicate his intended message (p. 234).

Moreover, the hatched area represents interactionally defined strategies. Although the definitions of CS vary from person to person, they have, nonetheless, been generally acknowledged to play a critical role in communication and have been the subject of much empirical investigation.
Problem

<table>
<thead>
<tr>
<th>Unmarked in performance</th>
<th>Marked in performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Interlocutor's interpretation</td>
</tr>
<tr>
<td></td>
<td>-appeal</td>
</tr>
<tr>
<td></td>
<td>+appeal</td>
</tr>
</tbody>
</table>

Figure 2. Reproduced from Faerch and Kasper (1983:234)

Taxonomies organizing various types of CS have been developed by Tarone (1977), Faerch and Kasper (1983), Chesterfield and Chesterfield (1985), Littlewood (1984), Riley (1984), Poulisse et al. (1984), Paribakht (1985), and Willems (1987). More detailed linguistic analyses of particular strategies have been proposed by Blum-Kulka and Levenston (1978), Faerch and Kasper (1983), and Paribakht (1985). CS may be positive (achievement/compensatory strategies) or negative (reduction strategies); they may be first-language-based or based on another foreign language the speaker happens to have (some or full) command of; they may contain an indirect or direct request for help; and they may be non-verbal.
Much research on CS has centered around the identification and classification of the learner's CS in communicating concrete lexical items, without providing a link between the use of these strategies and the learners' variables, such as personality, communicative context, language proficiency. Among all learners' variables, language proficiency has been assumed to be related with learners' choice of CS (Tarone, 1977; Corder, 1978). Bachman (1987) in his work proposes that strategic competence is related to all language competence, i.e., grammatical and contextual competence (cf. Figure 1). However, little empirical research have been done on how L2 learners' TL language proficiency affects their choice of certain CS (Bialystok and Frohlich, 1980; Paribakht, 1985).

The purpose of the present study was to investigate whether Chinese ESL (English as Second Language) learners' language proficiency affect their choice of CS in real communication with native speakers.

The second chapter provides a critical review of the literature on CS in terms of both theoretical and empirical considerations. The third chapter sets out the main problems, the specific hypotheses and the methodology, including design, sample and procedures. A
taxonomy of CS is described in Chapter IV. Results from the quantitative analysis of the data related to the major hypothesis of the study, as well as supplementary analyses, are reported in Chapter V. Chapter VI discusses the results and the major findings, summarizes the study, draws implications for theory and L2 pedagogy, and offers suggestions for further research.
CHAPTER II. THE STUDY OF COMMUNICATION STRATEGY - LITERATURE REVIEW

Empirical Studies of Communication Strategy

The subject of 'communication strategies' has been investigated by much empirical research. However, these studies vary considerably in their theoretical frameworks, methods of data collection and analysis, as well as in the types of learners and language involved. Varadi (1973) initiated the empirical study of CS in the literature on interlanguage (IL) (see note 1), followed by studies by Tarone (1977), Blum-Kulka and Levenston (1978), Bialystok and Frohlich (1980), Paribakht (1982), Haastrup and Phillipson (1983), etc.

In her 'Conscious Communication Strategies in Interlanguage: a Progressive Report', Tarone (1977) examined the speech production of nine adult ESL students as they performed a picture description task in both their first language (L1) and L2. The description of their communication strategies was based on the five basic categories outlined in Tarone, Cohen, and Dumas's (1976) terminological framework: avoidance, paraphrase, conscious transfer, appeal for assistance, and mime. An examination of the data in that study revealed that
individual L2 learners do exhibit conscious CS preference; thus, Tarone further assumed that learners' language proficiency may correlate highly strategy preference.

In their article 'Universals of Lexical Simplification', Blum-Kulka and Levenston (1978) investigated strategy use at the lexical level by Hebrew learners. Blum-Kulka and Levenston made the point that simplification occurs in various discourse types, of which L2 learners' spoken and written performance, "foreigner talk", simplified readers and translation are included in their present study. They hypothesized that (A) lexical simplification operates according to universal principles, and that (B) their universality derives from the language user's L1 "semantic competence" (see note 2). In their examination of their subjects' performance on sentence completion tests, of translations, of teachers' L2 use and of simplified readers, Blum-Kulka and Levenston divided the simplification into two major categories: process, including overgeneralization and transfer; strategy, including circumlocution, language switch, and appeal to authority, etc. Both strategies and processes were found in all of the four discourse types in that study. Blum-Kulka and Levenston interpreted their findings as confirming their hypotheses on lexical simplification.
In their 'Achievement Strategies in Learner/Native Speaker Interaction', Haastrup and Phillipson (1983) examined the oral production of eight Dutch English learners while conversing with English native speakers. The data demonstrate that both productive and receptive problems contributed to the communication disruptions occurring in the conversations. Haastrup and Phillipson found that production problems were inclined to result from the subjects' not having the appropriate English lexical items to discuss the topic at hand, making the speech halting and non-fluent. The learners attempted to get over their communicative crisis by resorting to a number of strategies based on their L1, such as borrowing, literal translation into English, and anglicizing. Moreover, Haastrup and Phillipson found that appeals for assistance were accompanied by a considerable amount of non-linguistic strategies, i.e., gesture, and facial expression.

Wagner (1983) adopted a broad concept of communication strategy which is not specifically related to the gaps in the learner's IL repertoire. In his study 'Interlanguage Communication in Instruction', nine Dutch German learners performed an instruction task: building a house from Lego blocks and making a clay pot. The result
of Wagner’s investigation illustrated clearly the dependence of strategy selection on the learner’s assessment of the communicative situation and especially of his interlocutor, and underlines the necessity for interactional data in order to obtain insight into the strategic devices of IL communication management.

Factors Affecting the Choice of Communication Strategy

A number of factors have been proposed in the literature as affecting the speaker’s choice of CS: the learner’s personality (Brown, 1987; Tarone, 1977; Corder, 1978); the nature of interaction, age, social background, attitude towards the culture related to the language and knowledge of the topic of conversation (Corder, 1978). To my knowledge, no empirical research has been carried out to test the influence of the above factors on the choice of CS. In an attempt to examine the hypothesis that learner’s affective variables may influence his or her choice of CS, I conducted a pilot study in Fall semester, 1988 (see detail in Pilot Study section below).

Some empirical studies have examined the influence of other factors over the learner’s choice of CS. These factors are: the context in which the learner has learned his or her IL (Piranian, 1979; cited in Tarone, 1981), the
speaker's perception of the listener (Aono and Hillis, 1979; cited in Tarone, 1981; Wagner, 1983), task and target item in the experimental situation (Bialystok and Frohlich, 1980). In addition, the learner's native language background and the distance from the target language (henceforth TL) (Kellerman, 1977) probably affect his or her selection of CS, as well as knowledge of the target culture, the context of communication and the relationship between the interlocutors (Paribakht, 1982).

In relation to the factor of communication situation, Tarone (1981) distinguishes CS and sociolinguistic competence. She makes the point that CS are used to compensate for the limited or insufficient TL linguistic system "without necessarily considering situational appropriateness"; whereas, sociolinguistic competence "focuses on the appropriate usage of stylistic variants of this rule system based on a shared knowledge of social norms" (p. 287). It seems, however, that the reason for the adoption of CS may also be associated with problems in retrieving (Glahn, 1980; Faerch and Kasper, 1983), with negotiation meaning with interlocutor due to the existence of some semantic ambiguity (Tarone, 1981), or be with conveying an acquired concept for which there is no L1 equivalent to an interlocutor with the same L1 background.
(this is usually the case with those who have been exposed to more than one language or culture) (Paribakht, 1982).

In addition, the factor of the learner’s TL proficiency has been assumed to have much influence over his or her choice of CS (Tarone, 1977; Corder, 1978). Besides Bachman and Palmer's (1981) claim that learners at different proficiency levels have different strategic abilities, some empirical studies have investigated this relationship in the literature.

In their paper 'Oral Communication Strategies for Lexical Difficulties', Bialystok and Frohlich (1980) initiated the investigation about whether the learner's TL proficiency affects his or her choice of CS. They examined the conditions for the selection of certain CS in terms of three variables: the learner's inferencing ability, his or her formal proficiency, and the features of the communication situation. The elicitation method was a picture restructuring task: the subject had to describe a picture in TL (in this case: French) to his French-speaking interlocutor so that the latter could reconstruct it on a flannel board. The strategies examined in their study were considered with an overall trichotomy listed as follows:
1. **L1-based strategies.**
   a) *Language switch* refers to the insertion of a word or phrase of a language other than the TL, usually the learner's native language.

   b) *Foreignizing* native language (L1) items is the creation of non-existent of contextually inappropriate L2 words by applying TL morphology and/or phonology to L1 lexical items.

   c) *Transliteration* reflects the use of L2 lexicon and structure to create a (usually non-existent) literal translation of an L1 item or phrase.

2. **L2-based Strategies.**
   a) *Semantic contiguity* is defined as the use of a single lexical item.

   b) *Description* has three subclassifications which indicate the information which has been incorporated into the description. These three are general physical properties, and interactional/functional characteristics.

   c) *Word coinage* is the creation of an L2 lexical item by selecting a conceptual feature of the target item and incorporating it into the L2 morphological system.

3. **Paralinguistic Strategies.**
   Gestures or sounds occasionally accompanied an utterance or were used to substitute a verbal reference to a target item. (pp. 10-12)

Based on the results of their investigation, Bialystok and Frohlich concluded that there is interaction between learners' levels of TL knowledge and their strategy use in terms of their sensitivity to the variety of CS.
By using a different method (cf. Tarone, 1977; Bialystok and Frohlich, 1980), and following Bialystok and Frohlich (1980), Paribakht (1982) further investigated the relationship between CS and language proficiency. The elicitation method of her study involved a situation in which subjects were apparently given English words in isolation from any message-oriented communication and asked to convey these words as best they could to their interlocutors. However, the method for eliciting CS was criticized as "relatively unrealistic" and even labeled as "TV - Word Game" (Scholfield, 1988). On the other hand, Paribakht's method produced rich and interesting data since she developed an elaborated new taxonomy of CS. In terms of their commonalties, the strategies obtained from that study fell into four major groups:

I. **Linguistic Approach** exploits the semantic features of the target items. For example:

-'This is a fruit' (pomegranate)
-'Is the same like lamp' (lantern)
-'This is the opposite of failure' (success)

II. **Contextual Approach** exploits the speaker's contextual knowledge. For example:

-'when you sweep the floor, you gather up the dust with _____' (dust-pan)
-'when somebody is good...the heart is clean' (honesty). (In Farsi, a 'clean-hearted person' refers to an honest person.)
-'I take an examination and I fail, ok? and one of my adjective has been broken' (to break
one's pride)

III. Conceptual Approach exploits the speaker's world knowledge. For example:

'Suggest that you are a teacher and I am a student; and I didn't take the ...for...pass and I fail; and I come and say something, for example, you teach very well, you are a good man and ...what's the name of my action?' (flattery)

'A soldier in a war definitely needs it' (courage)

'It's symbolized by a dog' (faithfulness)

IV. Mime exploits the speaker's knowledge of meaningful gestures. For example:

'You always think are higher than me and you look me like this' (mime for a snobbish look) (pride)

'This fruit have a shape like earth' (mime for a round shape) (pomegranate)

Nonetheless, her classification of CS was "permuted in a very odd way" (Scholfield, 1988:225) and unbalanced because the distinction among categories I, II, and III is not absolutely clear. For example, categories I and III seem to be mutually exclusive but exhaust one dimension of classification, and the examples in III are in fact mostly also examples of II (Scholfield, 1988). Moreover, this classification failed to include any cooperative strategies which play important roles in genuine communication situations. Although her results are questionable because of her elicitation method and classification of CS, they do suggest that L2 learner's
use of CS should have specific characteristics at different developmental stages of their IL. Paribakht further suggests that the learner's limited TL knowledge may not only preclude or reduce the adoption of certain CS which require that knowledge, but may also affect the surface realization of their strategies in terms of grammatical accuracy and informative value.

Pilot Study

As mentioned earlier, personality has been hypothesized to affect speakers' choice of CS (Tarone, 1977; Corder, 1978). The pilot study was conducted in Fall semester, 1988 in order to determine whether a speaker's extroversion-introversion tendency influences over his or her choice of CS. The subjects were 16 Chinese-speaking students enrolled in English 100 A, B, C, D, and E levels at Iowa State University. The instruments used at that time were the EPI (Eysenck Personality Inventory), and a visually-oriented conversation (see APPENDIX A). Among all the strategies investigated, only the strategy of literal translation significantly correlated with extroversion-introversion, which implied that introverts use the literal translation strategy more often than extroverts do. However, it was
difficult to draw conclusions from this findings because the results of the pilot study were limited, e.g., small sample size, no inter-rater reliability analysis, etc. According to personal observation during the experimental session, the language proficiency of all subjects was more crucial to their choice of CS than their affective variables. Thus, it is decided that, instead of investigating the relation between extroversion-introversion tendencies of Chinese ESL learners and their choice of CS, the relationships between language proficiency and strategy use would be.

Following Paribakht (1982; 1985), this study investigated the relations between language proficiency and the use of CS in order to realize the interrelationships among different competences and the complex constituents of language proficiency. Thus, the major hypothesis was that the speaker's TL proficiency level could affect his or her choice of CS. The results of the present study may give some insight into the field of L2 acquisition and pedagogy.
CHAPTER III. THE STUDY

Method

Subjects

The subjects were 33 Chinese-speaking students enrolled at Iowa State University during the Spring semester, 1989. In terms of their different TL proficiency, the subjects were divided into three groups of 11 students each:

- Group 1 (G1) = high proficiency level of Chinese ESL students
- Group 2 (G2) = intermediate proficiency level of Chinese ESL students
- Group 3 (G3) = low proficiency level of Chinese ESL students

Each group contained females and males and there was an average age of 26.5 for the whole sample. The TL proficiency level of the subjects was measured by TOEFL (Test of English as Foreign Language), CHAT test, and cloze test. Based on the range of combined scores obtained in the TOEFL test, the CHAT test, and the cloze test, the subjects were divided into three groups. The subjects in the low proficiency level were chosen from their percentile scores below 33%; the scores ranged from 34% to 66% were chosen for the intermediate proficiency
level; and the subjects' scores in high proficiency level were above 67%. Their mean scores and standard deviations are presented in Table 4 (see Chapter V).

Instruments

1. **CHAT test** The oral proficiency levels of the chosen subjects was determined by the "CHAT test: An Interaction Test of Oral Proficiency" (Mabry, 1988). The CHAT test was developed on the basis of Canale and Swain's (1980) communication competence framework; accordingly, it consists of the measurement of three competence areas: grammatical competence, discourse competence, and strategic competence. This test was chosen because it involves natural interaction between the examinee and the examiner, and thus allows for normal communicative strategies to take place, e.g., "I don't know". Its concurrent validity is supported by the highly significant correlation (r = .75, p < .05) between it and the EPT (English Placement Test), a widely-used standardized written test.

2. **Cloze test** A cloze test was used to provide an index of general target language proficiency for each subject. The cloze test (see APPENDIX B), adopted from *Contemporary American English: Book Four* (Rossner et al.,
1981), is 432 words long. Every seventh word was deleted to produce the random cloze.

3. **TOEFL** TOEFL (Test of English as Foreign Language) is a multiple-choice standardized test to test English as L2 learners' listening, grammar, and reading abilities. The subjects of the present study had been given TOEFL before they were admitted to the University (with a TOEFL score greater than 500).

**Task Design**

**Communicative task**

Before describing the communicative task for eliciting CS used by subjects for this study, I will review briefly the major techniques which have been used in previous studies related to the oral production of L2 speakers, and to note some of their weaknesses. This is done so that the elicitation method of this study can be devised to compensate for the limitations of those studies in order to glean the data from genuine communication situations.

Tarone (1977) gave pictures to students and asked them to describe them in their L1 and English. However, the experimental conditions lacked the interactional aspects of real communication. Blum-Kulka and Levenston
(1978) used a discourse completion task which is more appropriate for the study of lexical acquisition than it is for eliciting CS. Bialystok and Frohlich (1980) used a picture reconstruction task. However, the cooperative behaviours between the subject and his interlocutor were prohibited, which resulted in the native speaker's subjective judgment for his or her over-reliance upon the information provided by the subject. Paribakht (1982; 1985) gave pictures of concrete nouns and cards with written abstract nouns to her subjects and asked them to describe the concrete and abstract nouns. However, her elicitation method involves a situation without any context of message-oriented communication, and thus impairs the genuineness of the communication.

In an attempt to compensate for the weaknesses of the elicitation methods of previous studies, the task for this study was designed to meet two criteria. First, it stimulated more realistic patterns of interaction, producing a wider variety of communication functions. For example, with unrestricted cooperation between the subject and his or her native speaker (henceforth NS), the subject can use language to describe, suggest, ask for clarification, and appeal for assistance.
A second criterion was that the task must comprise target items with sufficient difficulty so that subjects need to resort to CS. It has been demonstrated that lexical difficulty constitutes a genuine communicative problem which motivates use of CS (Tarone, 1977; Palmberg, 1979; Glahn, 1980; Paribakht, 1982).

The communicative task developed for this purpose is a functional communication task based on visual information. The task included two speakers, one Chinese subject and one NS of English. The subject had an world map with the Chinese names of countries and continents and a set of readily identifiable features, such as a windmill, the Eiffel Tower, an igloo, a rickshaw, and so on (see APPENDIX C). In order to avoid any ambiguity that might arise from visual confusion (e.g., the picture of a "hippopotamus" might be mistaken as that of a "rhinoceros"), the subjects were provided with the Chinese names of the target items on their maps. The target items are relevant to geographical contexts, e.g., "kangaroo" is the stereotypical animal of Australia. The NS had an identical map (see APPENDIX D), but without any features or pictures on it. He or she was asked to draw or write down the target items according to the information provided by the subject. The information gap was
maintained by the physical fact that the NS was not allowed to see the subject's map. Whether the NS could identify the target items contributes to the communication failure or success. In this way, the negotiation between the subject and the NS is fully cooperative and simulates a real-life situation.

The method of the present study was to elicit the subject's CS while he or she was combating problems in the area of single lexical items. The reason the task centered on vocabulary was attributable to the important role of lexicon in communication. Moreover, the lexicon, being the most arbitrary aspect of language, is subject to "continuous development" both in the language as a whole and in its individual speakers (Paribakht, 1982). Even though the TL syntactic rules of the L2 learner may be fossilized, his or her lexicon system keeps absorbing new vocabulary throughout life.

Choice of items

There were a total of 25 items on the map:

1. camel
2. cactus
3. pyramid
4. hippopotamus (hippo)
5. ostrich
6. cannibal
7. raft
8. windmill
9. camel
10. cactus
11. pyramid
12. hippopotamus (hippo)
13. igloo
14. rickshaw
15. helicopter (chopper)
16. parachute
17. kangaroo
18. penguin
19. hula-dancing
20. windsurf
28

9. tulip  21. merry-go-round
10. horse buggy  22. roller-coaster
11. Eiffel Tower  23. tepee (wigwam)
12. Triumphal Arch  24. mermaid
(Arch du Triomphe)  25. dolphin

The reason for choosing these words are two. First, the concepts of all the items should be familiar to the subjects and the NS in their native language. As a result, the phenomenon of unfamiliar concepts blocking attempts at communication can be avoided. Second, all of these items, except for "rickshaw", are illustrated entries in dictionaries, such as The Sesame Street Dictionary, The New Golden Dictionary, Richard Scarry's Best Word Book, and Find-A-Word In The Country. Those dictionaries, based on several current vocabulary lists compiled by educators, are designed for young L1 learners; thus, the words appear frequently in beginning reading books and in everyday life.

In order to simulate a real-life situation, each subject conversed with a different NS of English. The NS were 33 students or faculty members at Iowa State University. This was done so that the NS was not able to identify the target items before he or she inferred the answers from the subject's contexts. In addition, the task allowed a natural interaction between the subjects and their interlocutors, which is an important aspect of
communication. Each negotiation between the subject and the NS were video-taped and later transcribed.

Procedure

During the Spring semester, 1989, the cloze test and the CHAT test were administered to small groups of students in different sessions. Each subject's CHAT test was rated by two experienced ESL teachers respectively, and the inter-rater correlation coefficients was calculated and considered. The cloze test was scored by the researcher. TOEFL scores were obtained from the subject's biodata and entered with the other data.

The experimental sessions were videotaped in order to get data on the non-linguistic meaningful gestures used by the subjects to get their messages across. In order to establish the reliability of rating the subject's strategy use, two judges, including the researcher, were provided with the video transcriptions and with the typology of CS and its definitions. They were asked to read the relevant extracts of the video transcriptions, to note and identify the CS used by the subjects while they encountered problems in expressing the target items.

The data were analyzed by using SAS (Statistical Analysis System) to perform three analyses. First, KR-21
reliability for each test, except for the TOEFL, was calculated. Second, descriptive statistics were estimated. Finally, a one-way analysis of variance (ANOVA) and Scheffé's test were calculated in order to find relations between strategy use and language proficiency.
CHAPTER IV. TAXONOMY OF COMMUNICATION STRATEGY

The results are presented in two parts. First is the description of the taxonomy of CS developed for the present study. This taxonomy of strategies was based on existing typologies, most notably those of Tarone (1977), Faerch and Kasper (1983), Riley (1984), Paribakht (1985) and Willems (1987), but here some changes were made in the definitions.

Taxonomy of CS

During communication, breakdowns will often occur when the speaker says something that his or her interlocutor does not understand or the speaker has difficulty in getting his or her message across. The speaker may attempt to solve problems or to repair the breakdown in communication by using CS. Following Paribakht (1982), some considerations related to the identification of CS were taken into account in this study. The first consideration concerns the accuracy of the subject's point of view and world knowledge. That is, while identifying the CS based on the information provided by the speaker, the researcher should ignore "the truth or the informative value of the content" (Paribakht, 1982:42). For example, in "it's a kind of horse"
(hippopotamus), the subject’s strategy is "conceptual transfer", irrespective of the concern that "hippopotamus" is really "a kind of horse" or not. A second consideration in identifying the subject’s CS was that very often a subject’s statement contained several CS in a nested framework. In such cases, each embedded CS was treated separately. For example, the utterance "you can see the.. /haipou/.. mm.. a kind of animal usually hide their heads into the water only.. leave their eyes above the water" includes two CS: approximation (i.e., /haipou/) and action description (i.e., a kind of animal usually hide their heads into the water only). In the example provided in the description of the taxonomy, the target CS in each example will be underlined, if necessary.

On the basis of different approaches to problem solving, the four categorizations of CS can be distinguished: interlingual, intralingual, paralinguistic and avoidance approaches. The interlingual approach is constituted from the speaker’s first language (L1); the intralingual approach is based on the target language (TL); the paralinguistic or non-linguistic approach, consists of mime, gestures and sound-imitations; and the avoidance approach entails the speaker reducing his or her communicative goal in order to avoid a problem.
Thus, the major approaches are as follows:

I. Interlingual approach

II. Intralingual approach

III. Paralinguistic approach

IV. Avoidance approach

Within each of these approaches are further categorizations. The presentation of these approaches and their constituent categories and strategies are summarized in Table 1. The proposed classification of CS elicited in this study does not preclude the possibility of alternative classifications or the discovery of other CS. A detail description of each of these approaches, including their constituent categories and strategies, are discussed in the following sections.

I. Interlingual approach

The interlingual approach involves the insertion of L1 lexical items or expressions different from those of the language in which the conversation is taking place. The approach includes the following categories: borrowing/code switching, foreignizing, literal translation (Willems, 1987), and transliteration of L1 (Paribakht, 1985). Since the distance between Chinese and English is not as close as that between the Indo-European languages studied in the previous research, such as Dutch,
German, and English (Kellerman, 1977), Chinese speakers tend to rarely use or anglicize Chinese words or phrases directly when they have difficulty in communicating with the NS of English in ESL situations. As a result, only the categories of literal translation and conceptual transfer will be dealt with in this study.

A. **Literal translation** The strategy involves a word-for-word translation from L1 to L2 of lexical items, idioms or compound words. Examples:

"and we can...we can see...mm...Egypt gold word tower (laugh)" (pyramid) (In Chinese, a gold word tower refers to a pyramid)

"at Holland...mm...you can see the...mm...tulips and...wind car" (windmill) (In Chinese, a wind car refers to a windmill)

"you can...er...took...er...horse car to Paris" (horse buggy) (In Chinese, a horse car refers to a horse-drawn vehicle)

"at sea world...mm...we can see beauty fish" (mermaid) (In Chinese, a beauty fish refers to a mermaid)

B. **Conceptual transfer** The strategy is indicated by the use of a L1 concept or semantic features, assuming that it can equally work in L2. Examples:

"in Paris...we see a famous building...er...when Napoleon came to Paris...they built...er...er...the door" (Arch du Triomphe) (An arch is regarded as a door in Chinese)

"at Hong Kong...er...you can take the kind of car" (rickshaw) (In Chinese, the concept of "car"
relates to anything with wheels)

"we close to African wooden area...mm...have animal...I think...er...a big horse" (hippopotamus) (In Chinese, a river horse refers to a hippopotamus) (two strategies: conceptual transfer and physical description)

II. Intralingual approach

The intralingual approach exploits generally only the language in which the conversation is taking place (Willems, 1987). It includes the following categories:

A. Approximation The strategy involves the use of an expression possessing essential phonological and/or morphological features of the TL lexical item. Examples:

"the picture I have there is...er...camel...er...and a kind of plant called /katjus/...right?" (cactus) (two strategies: approximation and seeking verification)

"and we go eastward...then we can see...mm.../hip'poutma/ (with rising intonation)...am I right?" (hippopotamus) (two strategies: approximation and seeking verification)

"/iklou/...the Eskimo house" (igloo)

B. Semantic contiguity Semantic contiguity refers to the use of an item which shares certain semantic features with the target item; however, it does not precisely convey the desired meaning (Bialystok and Frohlich, 1980). Following Paribakht (1985), in this study, we consider semantic contiguity as a general term including several CS which exploit the semantic relations
between utterances and target items.

1. Generalization The strategy refers to the use of an lexical item instead of an unavailable target item to convey the speaker's message. The constituent CS of generalization are as follows:

   a) Superordinate The strategy involves the use of a 'superordinate term' for the target lexical item because hyponym relations exists between these two items (Blum-Kulka and Levenston, 1978). Examples:

   "a kind of vehicle" (rickshaw)

   "in Holland we can see tulips and mill" (windmill)

   "then we go to the North Pole..er..there are a kind of bird..you know when they walk..they look like this (gesture: mime a penguin's walking)" (penguins)

   "a kind of mammal but lives in the ocean" (dolphin)

   b) Overgeneralization The speaker uses an inappropriate "high-coverage word" in lieu of the correct subordinate item (Palmberg, 1979). Examples:

   "the camp and an Indian guy" (tepee)

   "it's a fish..a real fish in the under sea" (dolphin)

   "on the road we can see..a kind of tree" (cactus)

   c) Same-level generalization An inappropriate word of the same level as the target word is given (Palmberg, 1979). Examples:
"there are some cowboys sitting on the carriage with a horse" (covered wagon)

"we take double-seat horse wagon to Paris" (horse buggy)

"we will take coupe" (horse buggy)

"there is a mouse sitting on the ferry boat to cross the ocean" (raft)

2. Comparison The use of this strategy is to exploit the analogous or dissimilar relations between the terms. Namely, the target word can be compared with another item in positive or negative way (Paribakht, 1985). Examples:

"another animal is like a turkey in the Africa" (ostrich)

"it is like a cow" (hippopotamus)

"a tower very high like a temple" (Eiffel Tower)

"its shape is like a hand" (cactus) (two strategies: physical description and comparison)

"the fly car is like a tube" (roller coaster)

"it is not same as a boat" (raft)

"the device is not an umbrella" (parachute)

C. Circumlocution The category refers to a description of the characteristics or elements of the target concept instead of using specific lexical items (Tarone et al., 1977). The category has the following subclassifications:
1. Physical description Some aspects of the target items, such as size, shape, colour, material, are described. Examples:

"The iron tower is big" (size and material) (Eiffel Tower)

"there have some plants..green one" (colour) (cactus)

"the boat is made of wood" (material) (raft)

"it is semicircle" (shape) (igloo)

"its shape is triangle" (shape) (pyramid)

2. Constituent features The constituent features strategy refers to an entity being described by mentioning different parts of the object or the underlying semantic features of the concept (Paribakht, 1985). The strategy is realizations as follows:

a) Features The speaker indicates the features of the target item without providing elaboration. Examples:

"they have some stings on the surface of the plant" (cactus)

"there is a kind of people live in the jungle..they will eat people" (cannibal)

"there are some fans on the top" (helicopter)

"they have big bags in front" (kangaroo)

"a girl with fish tail" (mermaid)
b) **Elaborated features** The speaker gives details for a single feature of the target item.

Examples:

"its leaf is stick when you touch it, you will get hurt" (cactus)

"this fly is small...in the top...it has a cross turning around" (helicopter)

"its sound is very strange, very high" (dolphin)

"the bird’s egg is the biggest" (ostrich)

3. **Functional features** The speaker describes the target item in terms of its function. Examples:

"it is used to ground the wheats into powder" (windmill)

"it can produce electricity" (windmill)

"the car can carry man" (rickshaw)

"we use something that fall in the sky to Australia" (parachute)

4. **Locational features** By commenting on the location of the item with regard to its geographical area (i.e., country or origin) and/or its immediate location, e.g., "farm" (for scarecrow) or "the tip of finger" (for "thimble"), the speaker gets his or her meanings across (Paribakht, 1985). Examples:

"this is a plant you can see in the desert" (cactus)

"they live in...near the coast in the South Pole" (penguin)
"we saw the national flower of Holland" (tulips)

"there is an animal that can be a symbol of Australia" (kangaroo)

"there are several wooden horses around the circle" (merry-go-round) (two strategies: elaborated features and locational features)

"this kind of fish often appear in the show" (dolphin)

5. Historical property The speaker gives temporal information about when the item was used or made or historical background of the target item (Paribakht, 1985). Examples:

"when the Egypt kings died long time ago...his people...mm...bury him in the tower" (pyramid)

"when Napoleon won the battle, he built this architecture as memory" (Arch du Triomphe)

"many years ago people in Dutch use this to produce power" (windmill)

"in the old times people use wood to make up a kind of ship" (raft)

"in the beginning...people explored the Big West...they use this kind of transportation driven by a horse and with cover" (covered wagon)

6. Action description This strategy is an attempt to describe the manner of movement or the habitual acts of the target concept. Examples:

"if they meet their enemy, they hide their heads into the sand" (ostrich)

"A big animal...they like to di...distinguish (note: extinguish) the fire" (hippopotamus)
"the wooden horses go up and down with music"  (merry-go-round)

"the car runs very fast from higher place to the lower place"  (roller-coaster)

"some people take a circle..this fish can jump through the circle"  (dolphin)  (two strategies: overgeneralization and action description)

"this is a cart pulled by man"  (rickshaw)  (two strategies: superordinate and action description)

"when the wind comes, it will turn around"  (windmill)

**D. Spelling**  The speaker spells the target item for his or her interlocutor because he or she is not certain whether his or her pronunciation of an item can be understood (Paribakht, 1982). Examples:

"the first trip we will find a /pairəmɪd/...P-Y-R-A-M-I-D"  (pyramid)  (two strategies: approximation and spelling)

"we can see some...er../kagtɥys/ [NS: what's that?] /kagtɥys/...C-A-C-T-U-S"  (cactus)  (two strategies: approximation and spelling)

**E. Appeal for assistance**  The category indicates that the speaker gives signals to his or her interlocutor when he or she runs into problems in communication and seeks for assistance (Tarone et al., 1977; Faerch and Kasper, 1983). The subcategories of this strategy are listed as follows:

1. **Explicit**  The speaker directly asks his or her interlocutor for the target item to solve
communicative crises. Examples:

"how do you spell the word ‘roller-coaster’?"

"the people like to eat human beings..do you know what’s the name of the barbarians?" (cannibal)

"how do you call the girl with fish tail?" (mermaid)

"What’s the name of the flowers?" (tulips)

2. Implicit The speaker uses pauses, intonation, draws, repetition or expressions like "I don’t know what to call this" to indirectly appeal for help from his or her interlocutor. Examples:

"the animal is very smart..there is a special show for this animal..it’s a fish..a fish (sigh)..I don’t know its name..it’s a real fish" (dolphin)

"this flower got several colours..bright colours..I think it’s /tubalps/../tubalps/...(laugh) I forget how to call it?" (tulips)

3. Seeking verification The speaker uses utterances accompanied by rising intonation or a direct question to make sure whether his or her messages have been conveyed (Paribakht, 1982; Riley, 1984). Examples:

"In Holland we can see windmill..windmill (with rising intonation)" (windmill)

"you know what is mat?" (raft) (two strategies: same-level generalization and seeking verification)

"do you know /keptus/?" (cactus) (two strategies: approximation and seeking verification)

"do you call it river horse?" (hippopotamus) (two strategies: literal translation and seeking verification)
"we see the Arch du Triomphe, am I right?" (Arch du Triomphe)

F. Exemplification The speaker uses examples, regarding certain people, places, occasions or real events, to convey the target concept (Paribakht, 1985; Faerch and Kasper, 1983; Willems, 1987). Examples:

"Ronald Reagan often takes this plane" (helicopter)

"you know in California...on the way to Las Vegas...we can see this plant on the side of road" (cactus)

"we can see it in the old movies" (horse buggy)

"You know John Wayne...in the western movie...he ride this to fight Indians" (covered wagon)

"you know Three Company...you know Jack and his landlord...they ride this horse" (merry-go-round)

"we take a train like screamer in Adventure Land" (roller-coaster)

"in the movie "Splash"...there is this kind of girl" (mermaid)

III. Paralinguistic approach

The non-linguistic strategies refer to the use of meaningful mimetic gestures, facial expression in communicating the target item (Tarone, 1977; Paribakht, 1982; Willems, 1987). The paralinguistic approach has two following categories:

A. Replacing verbal output This non-verbal strategy involves the speaker replacing linguistic output with a gesture. Examples:
"because the oil is not enough...mm...you must..." (the subject mimes the jumping action) (parachute)

"when it walks...like this" (the subject mimes the penguin's movement) (penguin)

"the animal always likes to stand in the center of a river...always /ha/..." (mimes the yawn of a hippo) (hippopotamus)

B. Accompanying verbal output This paralinguistic strategy involves the speaker using gestures accompanying his or her verbal output. Examples:

"they have horse mid turn around" (mimes for movement) (merry-go-round)

"a very fast train you can go up to 100 degree and a kind of turn" (mimes the movement of a roller-coaster) (roller-coaster)

IV. Avoidance approach

This approach is used by the speaker who does not have the appropriate vocabulary or syntactic structure to express his or her meanings (Tarone, 1981; Blum-Kulka and Levenston, 1978; Palmberg, 1979). Topic avoidance and message abandonment, two categories of avoidance behavior, were distinguished in the present report.

A. Topic avoidance Since the speaker is not confident of or has difficulty in getting his or her messages across, he or she decides to get rid of the problem by practicing complete silence or by using such expressions as "I don’t know how to say those...let’s move on."
B. Message abandonment. Having initiated the attempt to express the target concept, the speaker gives up in mid-utterance because he or she does not feel competent to continue the subject. Examples:

"a kind of car...you can...er...er...a kind of...I want to skip it" (horse buggy)

"I can't describe it...they have many kinds of colours...let's forget this" (tulips)

"it's a kind of building...er...er...it is like a door...er...can I skip it?" (Arch du Triomphe)

In sum, the broad categorization of CS in this study was based on the type of the subject's information. The information included in the strategic effort may be derived from (a) the subject's L1, (b) the target language itself, (c) non-linguistic information given within the situation, (d) avoidance behavior. These distinctions should be critical in their potential for discriminating subjects according to their proficiency in the target language.
Table 1. Summary of the taxonomy

I. Interlingual approach
   A. Literal translation
   B. Conceptual transfer

II. Intralingual approach
   A. Approximation
   B. Semantic contiguity
      1. Generalization
         a) Superordinate
         b) Overgeneralization
         c) Same-level generalization
      2. Comparison
   C. Circumlocution
      1. Physical description
      2. Constitutional description
         a) Features
         b) Elaborated features
      3. Locational property
      4. Historical property
      5. Functional description
      6. Action description
   D. Spelling
   E. Appeal for assistance
      1. Explicit
      2. Implicit
      3. Seeking verification
   F. Exemplification

III. Paralinguistic approach
   A. Replacing verbal output
   B. Accompanying verbal output

IV. Avoidance approach
   A. Topic avoidance
   B. Message abandonment
CHAPTER V. QUANTITATIVE ANALYSIS OF THE DATA

Reliabilities and Descriptive Statistics

Reliabilities were calculated first for the two non-standardized tests: the CHAT test and the cloze test (Table 2). In addition, the inter-rater correlation coefficient for the whole group on the CHAT test was .90 (p< .01); therefore, the test was adequate as a measure of oral ability. Descriptive statistics were calculated for all the tests (Table 3). Inter-rater reliability for CS identification was determined by calculating the percentage of agreement between two judges. The result shows that the agreement between two judges for the whole group was 87%, which indicates adequate consistency of rating.

Relationships between Communication Strategy and Language Proficiency

The present study addressed the question whether the speakers’ TL proficiency affects their choice of CS. Therefore, the results will be presented as follows.

Choice of CS

Analysis of the differences in strategy use among the three subject groups, with regard to the
proportions and types of their CS, was achieved by the following process:

1. In order to measure all strategies on the same baseline, the occurrence number of each CS used by each subject was counted for each target item.

2. The frequency of the number of each CS used by each subject was calculated by representing the ratio of the number of each CS to the total number of CS used by that subject.

3. One-way ANOVA (analysis of variance) and Scheffé’s test (p< .05) were performed on the data to compare each subject’s mean proportions for each strategy. Comparisons among subject groups were carried out on the combined data (e.g., literal translation + conceptual transfer) for the approaches, i.e., interlingual, intralingual, paralinguistic, avoidance, and the categories, i.e., semantic contiguity, circumlocution and appeal for assistance. The combined data of each category or each constituted CS was to confirm the hypothesis that the speaker’s TL proficiency would affect his or her choice of certain CS. The analysis of group differences in the combined data was made as follows:
1. The proportion of each CS was combined with others under the same approach and category for each subject.

2. Both one-way ANOVA and Scheffe test (p< .05) were conducted to compare the group mean proportions for each approach and category.

The results from the quantitative analysis of the data will be reported following the outline of the taxonomy of CS (see Table 1 in Chapter IV) for the convenience of reading.

I. Interlingual approach

The distribution of this L1 approach distinguished the subject groups. According to Table 4, G3 used the interlingual approach proportionally more often than G2 and G1. The analysis of variance and Scheffe's test on the data also revealed that the difference was significant (F(2,30)=27.32, p< .001) because of the relatively greater use by G3: G3>G2, G1, Scheffe, p< .05.

The results of the analysis of variance on the categories of interlingual approach, i.e., literal translation and conceptual transfer, are discussed below.
Table 2. KR-21 for the measures of the CHAT and cloze tests

<table>
<thead>
<tr>
<th></th>
<th>CHAT</th>
<th>Cloze</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability</td>
<td>.712</td>
<td>.724</td>
</tr>
</tbody>
</table>

Table 3. Group means and standard deviations for the TOEFL, CHAT and cloze tests

<table>
<thead>
<tr>
<th>Language Test</th>
<th>TOEFL</th>
<th>CHAT</th>
<th>Cloze</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Possible</td>
<td>680</td>
<td>15</td>
<td>50</td>
</tr>
<tr>
<td>Mean</td>
<td>549.81</td>
<td>11.38</td>
<td>31.23</td>
</tr>
<tr>
<td>SD</td>
<td>28.61</td>
<td>2.90</td>
<td>6.31</td>
</tr>
</tbody>
</table>
A. **Literal translation** The analysis of variance revealed that the proportion for G3 was significantly higher than that for G2 and G1 ($F(2,30)=27.33$, $p<.001$). Scheffé’s test showed the difference: $G3>G2,G1$, $p<.05$. (See Table 5 for mean proportion scores and standard deviations.)

B. **Conceptual transfer** The comparisons among groups revealed a significant difference only between G3 and G1 ($F(2,30)=4.66$, $p<.05$). The results from the Scheffe’s analysis was similar: $G3>G1$, $p<.05$. (See Table 6 for mean proportion scores and standard deviations.)

A summary of the results for the interlingual strategies are presented in Table 7.

**Summary - interlingual approach**

Table 7 indicates that both literal translation and conceptual transfer contribute significantly to the difference among the groups in the case of the interlingual approach.

II. **Intralingual approach**

The analysis of variance showed that the distribution of the various CS in this approach based on L2 did not distinguish the groups ($F(2,30)=.64$, n.s.). (See Table 8 for mean proportions, standard deviations.)
Table 4. Mean proportion scores and standard deviations for the use of the interlingual approach

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>11</td>
<td>.0267</td>
<td>.0185</td>
</tr>
<tr>
<td>G2</td>
<td>11</td>
<td>.0570</td>
<td>.0357</td>
</tr>
<tr>
<td>G3</td>
<td>11</td>
<td>.1543</td>
<td>.0611</td>
</tr>
</tbody>
</table>

Table 5. Mean proportion scores and standard deviations for literal translation

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>11</td>
<td>.0103</td>
<td>.0129</td>
</tr>
<tr>
<td>G2</td>
<td>11</td>
<td>.0259</td>
<td>.0307</td>
</tr>
<tr>
<td>G3</td>
<td>11</td>
<td>.1066</td>
<td>.0459</td>
</tr>
</tbody>
</table>
Table 6. Mean proportion scores and standard deviations for conceptual transfer

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>11</td>
<td>.0165</td>
<td>.0171</td>
</tr>
<tr>
<td>G2</td>
<td>11</td>
<td>.0311</td>
<td>.0271</td>
</tr>
<tr>
<td>G3</td>
<td>11</td>
<td>.0490</td>
<td>.0289</td>
</tr>
</tbody>
</table>

Table 7. Summary of the results for between group differences in the use of the interlingual approach

<table>
<thead>
<tr>
<th>CS</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literal translation</td>
<td>G3&gt;G2,G1</td>
</tr>
<tr>
<td>Conceptual transfer</td>
<td>G3&gt;G1</td>
</tr>
<tr>
<td>Interlingual approach</td>
<td>G3&gt;G2,G1</td>
</tr>
</tbody>
</table>
With regard to the categories and constituent CS of this approach, the results are as follows:

A. **Approximation** Table 9 revealed that G1 use this category proportionally more often than G2 and G3. A one-way ANOVA revealed that the significant differences \( F(2,30)=18.68, p<.001 \) were due to the relatively higher use by G1 than the other groups: G1>G2,G3, Scheffé, \( p<.05 \).

B. **Semantic contiguity** The analysis of variance in the relative use of this strategy was not significant among the groups \( F(2,30)=1.01, \text{n.s.} \). Scheffé's analysis indicated a similar effect: G1, G2, G3. (See Table 10 for mean proportions and standard deviations.)

The component strategies of this category produced the following patterns of use:

1. **Generalization** A comparison of the groups did not show significant differences in the proportional use of this CS \( F(2,30)=.91, \text{n.s.} \). In terms of the constituent CS of this strategy, a comparison of the groups brought out the following results:

   a) **Superordinate** This CS was used proportionally more often by G1 than G3. G2 did not deviate significantly from the other groups \( F(2,30)=1.02, p<.05 \), G1>G3 (Scheffé, \( p<.05 \)).
b) Overgeneralization The analysis of variance in the relative use of this CS revealed insignificant differences among the groups (F(2,30)=1.13, n.s.).

c) Same-level generalization There was no significant difference found among the three groups in terms of the relative use of this CS.

2. Comparison The analysis of variance in the relative use of this strategy did not show any significant differences among groups: F(2,30)=.39, n.s.

A summary of the results for semantic contiguity are presented in Table 11.

C. Circumlocution A significant difference was found only between G2 and G1 in the proportionally use of circumlocution (F(2,30)=4.39, p< .05); the results of the Scheffé's analysis, p< .05 level, revealed the difference: G2>G1. (See Table 12 for mean proportion scores and standard deviations.) The results in the use of the component strategies of this category are reported below.

1. Physical description A comparison among groups did not reveal any significant differences in the relative use of this CS (F(2,30)=1.25, n.s.).
Table 8. Mean proportions scores and standard deviations for the use of the intralingual approach

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>11</td>
<td>.1145</td>
<td>.134</td>
</tr>
<tr>
<td>G2</td>
<td>11</td>
<td>.1069</td>
<td>.153</td>
</tr>
<tr>
<td>G3</td>
<td>11</td>
<td>.0914</td>
<td>.123</td>
</tr>
</tbody>
</table>

Table 9. Mean proportion scores and standard deviations for the use of approximation

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>11</td>
<td>.1195</td>
<td>.059</td>
</tr>
<tr>
<td>G2</td>
<td>11</td>
<td>.0295</td>
<td>.017</td>
</tr>
<tr>
<td>G3</td>
<td>11</td>
<td>.0288</td>
<td>.029</td>
</tr>
</tbody>
</table>
Table 10. Mean proportion scores and standard deviations for the use of semantic contiguity

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>11</td>
<td>.063</td>
<td>.066</td>
</tr>
<tr>
<td>G2</td>
<td>11</td>
<td>.058</td>
<td>.062</td>
</tr>
<tr>
<td>G3</td>
<td>11</td>
<td>.046</td>
<td>.048</td>
</tr>
</tbody>
</table>

Table 11. Summary for between group difference in the use of semantic contiguity

<table>
<thead>
<tr>
<th>CS</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superordinate</td>
<td>G1&gt;G3</td>
</tr>
<tr>
<td>Overgeneralization</td>
<td>n.s.</td>
</tr>
<tr>
<td>Same-level generalization</td>
<td>n.s.</td>
</tr>
<tr>
<td>Generalization</td>
<td>n.s.</td>
</tr>
<tr>
<td>Comparison</td>
<td>n.s.</td>
</tr>
<tr>
<td>Semantic contiguity</td>
<td>n.s.</td>
</tr>
</tbody>
</table>
2. **Constitutional description**  A significant difference only between G2 and G1 was found by performing the analysis of variance (F(2,30)=5.1, p< .05). This relevant result had a similar effect through Scheffé’s test: G2>G1, p< .05. 

In terms of using the constituent CS of constitutional description, the results of the comparisons among groups are presented as follows:

   a) **Features**  No significant difference was found among the groups (F(2,30)=2.17, n.s.).

   b) **Elaborated features**  G2 was found to use this CS proportionally more often than G3 and G1 (F(2,30)=5.78, p< .01), G2>G3,G1 (Scheffé, p< .05).

3. **Locational property**  The analysis of variance did not reveal any significant differences among groups in the relative use of this CS (F(2,30)= .01, n.s.).

4. **Historical property**  None of the three groups was found to use this CS relatively more frequently than others (F(2,30)= .44, n.s.).

5. **Functional description**  The analysis of variance on this CS did not show any significant difference (F(2,30)=1.22, n.s.).
Table 12. Mean proportion scores and standard deviations for the use of circumlocution

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>11</td>
<td>.343</td>
<td>.090</td>
</tr>
<tr>
<td>G2</td>
<td>11</td>
<td>.441</td>
<td>.088</td>
</tr>
<tr>
<td>G3</td>
<td>11</td>
<td>.361</td>
<td>.067</td>
</tr>
</tbody>
</table>

Table 13. Summary for between-group differences in the use of circumlocution

<table>
<thead>
<tr>
<th>CS</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical description</td>
<td>n.s.</td>
</tr>
<tr>
<td>Features</td>
<td>n.s.</td>
</tr>
<tr>
<td>Elaborated features</td>
<td>G2&gt;G3,G1</td>
</tr>
<tr>
<td>Constitutional features</td>
<td>G2&gt;G1</td>
</tr>
<tr>
<td>Locational property</td>
<td>n.s.</td>
</tr>
<tr>
<td>Historical property</td>
<td>n.s.</td>
</tr>
<tr>
<td>Functional description</td>
<td>n.s.</td>
</tr>
<tr>
<td>Action description</td>
<td>n.s.</td>
</tr>
<tr>
<td>Circumlocution</td>
<td>G2&gt;G1</td>
</tr>
</tbody>
</table>
6. **Action description**  The comparisons among groups revealed insignificant differences among groups \( F(2,30) = .44, \text{n.s.} \).

A summary of the results for circumlocution on the data are reported in Table 13.

**D. Spelling**  There was no significant difference found among the groups in the relative use of this strategy \( F(2,30) = 2.38, \text{n.s.} \). (See Table 14 for mean proportions and standard deviations.)

**E. Appeal for assistance**  A comparison of the groups revealed significant differences \( F(2,30) = 5.54, p < .01 \). The results from the Scheffé's analysis, \( p < .05 \) level, were similar: \( G1 > G3, G2 \). (See Table 15 for mean proportions and standard deviations.)

The constituent CS included in this category produced the following patterns of use:

1. **Explicit**  A comparison of the groups did not show any significant difference \( F(2,30) = 2.37, \text{n.s.} \).

2. **Implicit**  Significant differences were not found in the relative use of this strategy by the groups \( F(2,30) = .02, \text{n.s.} \).

3. **Seeking verification**  The analysis of variance in the relative use of this CS showed a significant difference only between \( G1 \) and \( G2 \)
A summary of the results for appeal for assistance are presented in Table 16.

**F. Exemplification** The frequency of using this category by G2 and G3 was significantly higher than that by G1 ($F(2,30)=3.84, p<.05$). The result from the Scheffé's analysis, $p<.05$ level, was similar: $G2,G3>G1$. (See Table 17 for mean proportions scores and standard deviations.)

A summary of the results for the intralingual approach are presented in Table 18.

**Summary - intralingual approach**

That no significant differences were found among groups in the relative use of this approach can be attributed to the fact that the three groups adopted this approach to the same extent (see Table 18). However, there were certain significant differences observed, with regard to the proportional use of the component strategies of the intralingual approach.

The use of approximation, circumlocution, appeal for assistance, and exemplification are significantly different among groups. On the other hand, all the significant differences among groups at the category level
apparently cross each other out in combination at the approach level.

B. Semantic contiguity Table 11 indicates that the use of this category did not differ significantly among the groups. An examination of the component strategies of semantic contiguity in Table 11 reveals that in spite of the fact that G1 seems to attempt to get over the communicative problems through the use of superordinates, one constituent CS of generalization, the overall comparisons among groups in the use of semantic contiguity are not significant.

C. Circumlocution Table 13 reveals that a significant difference only between G2 and G1 was produced by this strategy: G2>G1. By inspecting the component CS of circumlocution, we can see that constitutional features primarily contributes to this difference.

D. Appeal for assistance Table 16 shows that this category produced a significant difference among groups: G1>G3,G2. The significant difference between G1 and G2 in the use of seeking verification contributes to this effect.
Table 14. Mean proportion scores and standard deviations for the use of spelling

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Means</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>11</td>
<td>.003</td>
<td>.006</td>
</tr>
<tr>
<td>G2</td>
<td>11</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>G3</td>
<td>11</td>
<td>.006</td>
<td>.009</td>
</tr>
</tbody>
</table>

Table 15. Mean proportion scores and standard deviations for the use of appeal for assistance

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>11</td>
<td>.167</td>
<td>.086</td>
</tr>
<tr>
<td>G2</td>
<td>11</td>
<td>.083</td>
<td>.043</td>
</tr>
<tr>
<td>G3</td>
<td>11</td>
<td>.092</td>
<td>.057</td>
</tr>
</tbody>
</table>
Table 16. Summary for between group differences for the use of appeal for assistance

<table>
<thead>
<tr>
<th>CS</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explicit</td>
<td>n.s.</td>
</tr>
<tr>
<td>Implicit</td>
<td>n.s.</td>
</tr>
<tr>
<td>Seeking verification</td>
<td>G1&gt;G2</td>
</tr>
<tr>
<td>Appeal for assistance</td>
<td>G1&gt;G3, G2</td>
</tr>
</tbody>
</table>

Table 17. Mean proportion scores and standard deviations for the use of exemplification

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>11</td>
<td>.008</td>
<td>.014</td>
</tr>
<tr>
<td>G2</td>
<td>11</td>
<td>.019</td>
<td>.018</td>
</tr>
<tr>
<td>G3</td>
<td>11</td>
<td>.018</td>
<td>.020</td>
</tr>
</tbody>
</table>
Table 18. Summary for between group differences for the use of the intralingual approach

<table>
<thead>
<tr>
<th>CS</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approximation</td>
<td>G1&gt;G2,G3</td>
</tr>
<tr>
<td>Semantic contiguity</td>
<td>n.s.</td>
</tr>
<tr>
<td>Circumlocution</td>
<td>G2&gt;G1</td>
</tr>
<tr>
<td>Spelling</td>
<td>n.s.</td>
</tr>
<tr>
<td>Appeal for assistance</td>
<td>G1&gt;G3,G2</td>
</tr>
<tr>
<td>Exemplification</td>
<td>G2,G3&gt;G1</td>
</tr>
<tr>
<td>Intralingual approach</td>
<td>n.s.</td>
</tr>
</tbody>
</table>
III. Paralinguistic approach

Proportionally, G2 and G3 used this strategy significantly more often than did G1 (F(2,30)=7.82, p< .01), G3,G2>G1 (Scheffe, p< .05). (See Table 19 for mean proportions, standard deviations.)

Regarding the two categories of the paralinguistic approach, the results were as follows:

A. Replacing verbal output Only the difference between G3 and G1 was significant (F(2,30)=3.57, p< .05), G3>G1 (Scheffe, p< .05). (See Table 20 for mean proportion scores and standard deviations.)

B. Accompanying verbal output The analysis of variance on this strategy revealed significant differences among groups (F(2,30)=7.07, p< .01), G3,G2>G1 (Scheffe, p< .05). (See Table 21 for mean proportion scores and standard deviations.)

Summary - paralinguistic approach

An examination of Table 22 reveals that both replacing verbal output and accompanying verbal output, in particular, contribute to the significant differences among the groups in the adoption of the paralinguistic approach.
Table 19. Mean proportion scores and standard deviations for the use of the paralinguistic approach

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>11</td>
<td>.008</td>
<td>.013</td>
</tr>
<tr>
<td>G2</td>
<td>11</td>
<td>.031</td>
<td>.034</td>
</tr>
<tr>
<td>G3</td>
<td>11</td>
<td>.040</td>
<td>.032</td>
</tr>
</tbody>
</table>

Table 20. Mean proportions and standard deviations for the use of replacing verbal output

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>11</td>
<td>.001</td>
<td>.013</td>
</tr>
<tr>
<td>G2</td>
<td>11</td>
<td>.010</td>
<td>.022</td>
</tr>
<tr>
<td>G3</td>
<td>11</td>
<td>.016</td>
<td>.023</td>
</tr>
</tbody>
</table>
Table 21. Mean proportions and standard deviations for the use of accompanying verbal output

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>11</td>
<td>.016</td>
<td>.021</td>
</tr>
<tr>
<td>G2</td>
<td>11</td>
<td>.053</td>
<td>.052</td>
</tr>
<tr>
<td>G3</td>
<td>11</td>
<td>.062</td>
<td>.054</td>
</tr>
</tbody>
</table>

Table 22. Summary for between group differences for the use of the paralinguistic approach

<table>
<thead>
<tr>
<th>CS</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replacing verbal output</td>
<td>G3&gt;G1</td>
</tr>
<tr>
<td>Accompanying verbal output</td>
<td>G3, G2&gt;G1</td>
</tr>
<tr>
<td>Paralinguistic approach</td>
<td>G3, G2&gt;G1</td>
</tr>
</tbody>
</table>
IV. Avoidance approach

The mean proportion usages of this approach was significantly higher for G3 than G2 and G1 \( (F(2,30)=4.58, p<.05) \). The results from the Scheffé's analysis was: G3>G2,G1, p< .05. (See Table 23 for mean proportion scores, standard deviation.) The categories of this approach produced the following patterns of use.

A. Topic avoidance  The comparisons among groups in the proportional use of this category did not reveal significant differences \( (F(2,30)=.51, \text{n.s.}) \). (See Table 24 for mean proportion scores and standard deviations.)

B. Message abandonment  The analysis of variance in the relative use of this category showed significant differences among groups \( (F(2,30)=4.58, p<.05) \). The relevant difference produced a similar effect in the Scheffé's analysis: G3>G2,G1, p< .05. (See Table 25 for mean proportions and standard deviations.)

A summary of the results for the avoidance approach are presented in Table 26.

Summary - avoidance approach

Table 26 indicates that message abandonment is the only factor which contributes significantly to the
differences among the groups in the case of avoidance approach: G3 > G2, G1.

Table 27 presents the summary of the results for the four major approaches.
<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>11</td>
<td>0.0013</td>
<td>0.0045</td>
</tr>
<tr>
<td>G2</td>
<td>11</td>
<td>0.0015</td>
<td>0.0051</td>
</tr>
<tr>
<td>G3</td>
<td>11</td>
<td>0.0084</td>
<td>0.0082</td>
</tr>
</tbody>
</table>

Table 24. Mean proportion scores and standard deviations for the use of topic avoidance

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>11</td>
<td>0.0047</td>
<td>0.0219</td>
</tr>
<tr>
<td>G2</td>
<td>11</td>
<td>0.0086</td>
<td>0.0248</td>
</tr>
<tr>
<td>G3</td>
<td>11</td>
<td>0.0177</td>
<td>0.0233</td>
</tr>
</tbody>
</table>
Table 25. Mean proportion scores and standard deviations for the use of message abandonment

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>11</td>
<td>.0014</td>
<td>.0045</td>
</tr>
<tr>
<td>G2</td>
<td>11</td>
<td>.0015</td>
<td>.0051</td>
</tr>
<tr>
<td>G3</td>
<td>11</td>
<td>.0084</td>
<td>.0082</td>
</tr>
</tbody>
</table>

Table 26. Summary for between group differences in the use of the avoidance approach

<table>
<thead>
<tr>
<th>CS</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic avoidance</td>
<td>n.s.</td>
</tr>
<tr>
<td>Message abandonment</td>
<td>G3&gt;G2,G1</td>
</tr>
<tr>
<td>Avoidance approach</td>
<td>G3&gt;G2,G1</td>
</tr>
</tbody>
</table>
Table 27. Summary for between group differences in the use of the four major approaches

<table>
<thead>
<tr>
<th>CS</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interlingual approach</td>
<td>G3&gt;G2,G1</td>
</tr>
<tr>
<td>Intralingual approach</td>
<td>n.s.</td>
</tr>
<tr>
<td>Paralinguistic approach</td>
<td>G3,G2&gt;G1</td>
</tr>
<tr>
<td>Avoidance approach</td>
<td>G3&gt;G2,G1</td>
</tr>
</tbody>
</table>
CHAPTER VI. DISCUSSION AND CONCLUSION

This study was designed to ascertain whether the speakers' level of TL proficiency affects their choice of CS. It is now possible to discuss this question. In this chapter, in addition to the findings in terms of the major hypothesis, other findings related to the nature of communication, a summary of the results, implications for L2 pedagogy and theory, and suggestions for further studies will be discussed. Thus, this chapter can be broken into five sections:

I. Major Findings
II. Other Findings
III. Conclusion
IV. Implications for L2 Pedagogy
V. Suggestions for Further Studies

Major Findings

The summary table of the analysis of variance on the groups' use of the four major approaches (see Table 27) indicates that all approaches, except the intralingual approach, differed among groups in the proportion of use. In other words, all the groups essentially adopted the intralingual approach to deal with their communicative problems in spite of the fact that their level of TL
proficiency varied. Also prevalent among all groups were semantic contiguity and circumlocution, labeled as 'Common Core Strategies' by Paribakht (1985).

Despite the fact that all the subjects resorted to similar strategies, they still differed from one another in the relative use of certain CS in terms of their different TL proficiency levels. The following will discuss the significant differences among groups in the proportional use of CS with respect to the four major approaches:

I. Interlingual approach

A more detailed analysis of the interlingual approach (see Chapter V) revealed that G3 used literal translation proportionally more often than the other groups, particularly G1. This indicates that the degree to which G1, G2 and G3 relied on this L1-based strategy was proportional to their TL proficiency. Regarding the relative use of conceptual transfer, G1, as Table 6 shows, fell significantly behind G3. These findings are consistent with what Taylor (1975) and Paribakht (1985) reported. In his study, Taylor found that elementary learners relied more heavily on it than did intermediate learners.
The reason that lower-proficiency speakers drew more on their L1 knowledge than their higher-proficiency peers may be attributable to the less proficient speakers' limited TL vocabulary. That is, because of the availability of L1 linguistic and cultural sources at their disposal, G3 resorted more to L1-specific strategies in order to compensate for their insufficient TL knowledge.

II. Intralingual approach

The intralingual approach exploits the TL knowledge of the speakers. As reported in Chapter V, the differences among the groups in the relative use of this approach were nonsignificant; however, as this approach was divided into its various component CS, group differences in the frequency of use of certain CS tended to increase. Detailed analysis of the intralingual approach revealed that G1 adopted a higher proportion of approximation than did the other groups. Put in Corder's (1978) terms, approximation is a kind of "risk-taking strategy". In this case, the speakers "knew that the term was there" (Glahn, 1980), and they retrieved the problematic items through the utterances which shared phonological and/or morphological features with the target items. The strategy of approximation significantly and heavily drew on the speakers' TL knowledge; therefore, it
is understandable that the high-level speakers relied much on this CS. However, subjects were mostly uncertain about whether their utterances could be understood by their interlocutors, and thus their statements were usually accompanied by such concomitants as "Am I right?", or with rising intonation. Accordingly, it is easy to understand that G1 resorted to the strategy of seeking verification proportionally more often than did the other groups. Moreover, the strategy of seeking verification was the most significant contributor to the differences among groups' frequency of adoption of appeal for assistance. The lower-proficiency level speakers, G3 in particular, with limited TL vocabulary, were relatively handicapped in attempting this strategy; as a result, they relied heavily on L1-based strategies as discussed earlier. If the high-proficiency level subjects in this study are considered "good language learners", these findings were consistent with what Rubin (1975) and O'Malley et al. (1985) reported: good language learners are more risk-taking and cooperative.

According to mean proportion scores (see Chapter V), all the groups distributed their selection over several CS, such as semantic contiguity and circumlocution. A more detailed analysis of the intralingual approach revealed that
G1 used a higher proportion of superordinate than did G3. Again, this may suggest that the G1 subjects have developed their TL lexicon more fully than the G3 subjects and have, therefore, the required lexical knowledge to carry out those strategies relatively more frequently than G3.

G2, as showed in Chapter V, used the strategy of elaborated features significantly more often than the other groups. The strategy of elaborated features was the most significant contributor to the differences among groups in the relative use of circumlocution. There are two explanations for G2's use of this strategy. One is that G2, the intermediate-level speakers, may be aware of the distance between the TL and their L1, and thus they relied less heavily on the interlingual approach than did G3. The other explanation is that they have not developed their TL knowledge as fully as G1 at their disposal, and thus they feel disadvantaged in the use of approximation. G2, therefore, heavily made use of their TL knowledge to convey their message by describing different parts of the target items or mentioning the underlying semantic features of the concept. In addition, due to the fact that they usually had difficulty in getting at the target items, G2 and G3 resorted to the strategy of exemplification proportionally more often than did G1.
This may demonstrate that the less proficient speakers, though lack of variety in their TL lexicon, have developed their social and cultural knowledge which the strategy of exemplification heavily draws on.

III. Paralinguistic approach

As reported in Chapter V, G2 and G3 particularly, used a higher proportion of the paralinguistic approach than G1 did. This is not surprising given that the paralinguistic approach is often used to support the verbal output in face-to-face communication. Detailed analysis of this approach showed that both categories under this approach, replacing verbal output and accompanying verbal output, contributed to the significant differences among the groups in the relative use of the approach. Using Paribakht's (1985) term, replacing verbal output is a "low-proficiency strategy" due to its substitution for the verbal output. However, G1 was found to use this strategy; maybe inadequate linguistic knowledge is not the only motivation for its adoption. Factors such as personality, cultural background, should be taken into account while interpreting the use of this strategy. Moreover, the use of this CS may also facilitate communication and contribute to a more effective expression of the speaker's meaning.
IV. Avoidance approach

Detailed analysis of the avoidance approach revealed that G3 use message abandonment significantly more often than the other two groups. The strategy of message abandonment was the only significant contributor to the differences among the groups in the proportional use of this approach. This may suggest that the least proficient speakers attempted to avoid errors or escape from the problematic items by giving up on a specific topic in mid-utterance. However, this strategy was also used by G1; probably, in order to "save face" (Brown and Levinson, 1978), the advanced group resorted to avoidance strategies rather than appealing to authority.

To sum up, the subject groups differed significantly in the relative use of the major approaches, except the intralingual approach, and in a number of their constituent strategies. Accordingly, the major hypothesis addressed this study is partially supported by the data.

Other Findings

Apart from the major finding that speakers' use of CS and level of target language proficiency are related, a number of findings, in terms of communication success, also shed light on the nature of communication. In this
study, the term "communication success" was defined as correct identification the target items of map by the English native speakers.

According to Ellis and Beatties (1986), communication is essentially a cooperative activity rooted in a huge foundation of background knowledge and assumptions. Therefore, with regard to successful communication, the interlocutors' knowledge of the world is a factor to be reckoned with. However, previous studies in this field have often overemphasized the nonnative speakers' performance and neglected the role of the native speakers in the communication process. An examination of the spoken interaction between the native and nonnative speakers in this study revealed that the English interlocutors' inappropriate knowledge was often a contributing factor in the failure of communication.

Compare the following examples:

Example 1:

S: in Paris...we visit /trai/...when Napoleon won the battle, he built the architecture as memory. Do you know what's the name?
N: Eiffel Tower
S: something like triumph
N: triumph tower (laugh)...I don't know
S: OK. Let's forget it and move on.
Example 2:

S: you can see a famous door...you know the Napoleon when he win...he going into the door
N: an architecture as memory?
S: yeah! it is to celebrate victory
N: oh! an arch..Triumphal Arch (Arch du Triomphe)

In spite of the fact that two subjects provided similar information, the native speaker in Example 1, without appropriate knowledge, provoked the communication breakdown, whereas, by activating his appropriate knowledge of the world, the native speaker in Example 2 inferred the target word "Triumphal Arch" or "Arc du Triomphe" from his interlocutor's context.

Moreover, a subject was more likely to fail in communication if the native speaker did not play an active role in the communication process by asking questions, by rephrasing and repairing the Chinese speakers' phrases, by rearranging in proper order the clues gleaned form the subjects or by synthesizing his or her interlocutor's examples in order to extract a common pattern of meaning from them.

Example:

S: it is the biggest bird in the world..I don't know its English name..with long neck
N: the biggest thing in the world? a bird?
S: yes, it runs very fast
N: a tyrannosaurus?
S: their body is this big (gesture) and the leg is something this long (gesture)
N: that could be tyrannosaurus..but tyrannosaurus is a dinosaur
S: it’s not a dinosaur..it’s a bird
N: a bird..run very fast..like ostrich or crane
S: long neck and long leg..I don’t know (ostrich)

Although some common failure was often due to the native speaker’s inappropriate knowledge, sometimes it was attributable to the native speakers’ linguistic superiority, i.e., treating their nonnative interlocutors as being inferior. For example:

S: in Africa, we can see ostrich
N: Ostrich! that’s incredible we can see ostrich in Africa..actually, ostrich shall be in Australia..what you see shall not be ostrich..perhaps you see an elephant bird or crane..they have similar features, like long neck, long neck
S: but...
N: I think there must be some mistake on the map
S: yeah! why don’t we go to next stop (ostrich)

Furthermore, the subject’s grammatical accuracy from both productive and receptive perspectives, is very influential in the success or failure of communication. From the productive perspective, the grammatical errors within a context were less likely to interfere with the task of identifying the target item by the native speakers. However, an error occurring a single word with an informative value usually caused a communication disruption. Among all grammatical errors committed by the subjects, phonological errors seem to be most distracting to the native speakers. While, syntactic errors hardly
ever interfered with communication process. For example:

Example 1

S: in Paris..I think it is a /traimuv/ gate
N: ...
S: /traimuv/ gate (with rising intonation)
N: what am I going to do?
S: this /traimuv/ gate (gesture)
N: cathedral?
S: just the gate (gesture)
N: oh! Arch du Triomphe (Arch du Triomphe)

Example 2

S: in /poulend/ we see a /wain/ car
N: car for carrying wine?
S: they have..they use this /wain/ car to make electric
N: Poland or Holland?
S: oh! Holland not /poulend/..they use the /wain/ to make power
N: I don't know what you are talking..in Holland they have windmill, but I don't know they use /wain/ to do something (windmill)

From a receptive perspective, an examination of the communication between the native speakers and the nonnative speakers revealed that some disruptions were due to the subjects' low comprehension level in the TL and their resulting inability to benefit from their interlocutors' responses and/or to provide adequate answers to their questions. For example:

S: you see another animal..it can living under the river..it is a very horse (gesture)
N: a horse?
S: yes! it has big mouth and big body
N: hippopotamus?
S: it is very big (gesture)
N: an alligator? can it swim?
S: yes! a big animal (hippopotamus)
In a word, in the interactive nature of communication task, both the native and nonnative speakers are responsible for communication success or failure. Generally speaking, it was noted that while only serious knowledge deficiencies could result in communicative breakdown, the reason for communicative delay could range from minor knowledge inadequacies to more serious inadequacies in the communication process.

Conclusion

The major hypothesis in this study dealt with the issue CS adopted by three groups of Chinese ESL students with different levels of TL proficiency. According to the results of the quantitative analysis in Chapter V, the subjects essentially employed the same strategies (i.e., semantic contiguity and circumlocution) and approaches (i.e., interlingual, intralingual, paralinguistic, and avoidance). Semantic contiguity and circumlocution were labeled as "Common Core Strategies" (Paribakht, 1985).

Yet, although the analyses reveal that all subjects have a common set of strategies and approaches available to deal with their communicative problems, differences among groups in the relative use of CS were still found. In the case of the major approaches, the low
proficiency speakers (G3) had a proportionally greater use of the interlingual approach than other two groups; at the same time, they resorted to the avoidance approach relatively more often than the other groups. The intralingual approach was the only one whose use did not differ among groups. The lower-level speakers, i.e., G2 and G3, relied on the paralinguistic approach more heavily than the high-level speakers. The data also indicated that the less proficient ESL Chinese speakers attempted to compensate for their limited TL vocabulary knowledge through making use of their L1 linguistic and paralinguistic knowledge, and avoidance behavior.

An examination of the detailed analyses of the major approaches revealed that both the high-level (G1) and intermediate-level (G2) speakers exploited much of their TL knowledge; however, the degree of which G1 and G2 relied on their TL knowledge was different. In an attempt to get over a communication crisis, the more proficient speakers (G1) were more willing to guess the target items by using expressions with similar phonological and morphological features. On the other hand, the intermediate level speakers (G2), with a less developed TL vocabulary, relied more on their world and paralinguistic knowledge. Therefore, the results of all analyses and comparisons
confirm the hypothesis that the speakers' TL proficiency level relates with their choice of CS.

The results suggest that the L2 learner’s adoption of CS has particular characteristics in his or her developmental stages of TL. That is, as the learner approaches TL, he or she will give up or adopt certain CS. However, given that the present study involved only cross-sectional data, a "transitional" and "dynamic" behavior (Paribakht, 1985), with regard to the strategy use, is suggested but not conclusive. In an attempt to prove that adoption of CS by L2 learners is "transitional", it is necessary to conduct longitudinal research in the future.

As mentioned earlier, all subjects essentially employed the same CS and approaches to cope with communicative problems. This indicates that the speakers demonstrate the same knowledge and abilities through their adoption of strategies; and, the knowledge and abilities can be referred to as "strategic competence", one of the components in Canale and Swain’s (1980) communicative competence theory, and in Bachman’s (1987) communicative language ability framework. Owing to their limited TL linguistic knowledge, the learners, particularly those in low proficiency level, not only drew on their L1
competencies (e.g., the use of literal translation and conceptual transfer), but also employed other knowledge available to them to solve their TL communicative problem. According to Paribakht (1985), however, the degree of interaction of the learner's CS and L1 competencies will depend upon a number of psycholinguistic factors, such as the awareness of the distance between L1 and L2. The fact that the more proficient speakers give up those L1-based strategies may suggest that with an increase in their L2 learning, the speakers' tendency to transfer is diminished by their awareness of the relatedness between L1 and L2. At the same time, those speakers rely more on the strategies which require TL knowledge to solve their TL communicative problems. This is consistent with Paribakht's (1985) position that the practice of strategic competence is associated with the availability of other competence in the TL, such as linguistic and cultural, and the speaker's other knowledge, like world and paralinguistic.

In sum, in that the low proficiency speakers possess limited or insufficient TL knowledge, they employed L2-based strategies proportionally less often than the more proficient speakers did. With an increase in their TL proficiency, the advanced speakers gradually give up the
L1-based strategies with their awareness of the distance between L1 and L2, and they adopt L2-based strategies to deal with communicative problems. This suggests that although the speakers share the same strategic competence, the degree to which they practice the competence depends on the interaction between their strategies and different levels of knowledge source. The study shows that strategic competence relates to grammatical competence. Moreover, both the native speakers and nonnative speakers have much influence in the effect of communicative success in the TL communication situation.

Implication for L2 Pedagogy

This study confirms the assumption that strategic competence exists alongside grammatical and sociolinguistic competence. As posed in the previous section (cf. Conclusion), all the speakers possess strategic competence, and have a natural tendency to adopt CS, the major part of this competence, when communicative problems arise. However, whether the speakers use and develop CS in trying to speak the L2 obviously depends on the learning situation which they have (Willems, 1987). In her study, Tarone (1984) indicates that "street-learners" (as opposed to "classroom learners") are extremely
skillful in using CS because they acquired their L2 knowledge in a real-life L2 situation. "Classroom learners", on the other hand, adopt quite limited strategies, such as paralinguistic, semantic contiguity and circumlocution (Poulisse et al., 1984). Faerch and Kasper (1983:56) state that it is important to teach L2 learners how to use CS appropriately because the latter enable the learners to fill the gap "between formal and informal learning situation, between pedagogical and non-pedagogical communication situations". Therefore, with attempt to increase the L2 learner's communicative competence, a lot of effort in L2 pedagogy should be devoted to structuring L2 courses which include instructions about the effective use of CS. Knowledge about how the speaker's TL proficiency can influence the use of CS elicited in this study has implications for L2 teaching and will be discussed below. These implications are, however, limited since the relative effectiveness of the CS was not investigated.

The interlingual approach exploits the speakers' specific knowledge, and comprises literal translation and conceptual transfer. The extensive use of these L1-based strategies by the low proficient speakers is due to their limited or inadequate TL knowledge. Like Gerard
Willems (1987), I am of the opinion that it is not necessary to be against learners’ L1-based CS use; if they feel at a loss for a word, their inhibition to resort to those CS probably disturbs their fluency in the TL communication. However, it is more important to make the L2 learners aware of the differences between L1 and L2 and to teach them the appropriate TL lexical items.

The intralingual approach, drawing on the speakers' TL knowledge, includes approximation, semantic contiguity, circumlocution, spelling, appeal for assistance and exemplification. Approximation refers to the speaker's use of an expression possessing essential phonological and/or morphological features of the target TL lexical items. The extensive use of this strategy by the more advanced speakers resulted from their richer TL knowledge and tentatively risk-taking tendency (cf. Rubin, 1975). Put in Corder's (1978) term, the strategy of approximation is "success-oriented"; thus, it is part of good language teaching to encourage this strategy.

As Table 1 (Chapter IV) shows, the component strategies of semantic contiguity were generalization and comparison. In circumlocution, subjects exploit physical, temporal, functional and other characteristics of the items. Among the six categories of the intralingual approach, semantic
contiguity and circumlocution are the most commonly used CS. Teaching learners about language is attempted to prevent their use of L1-based strategy. Moreover, by using the strategies of semantic contiguity and circumlocution, the L2 learners may become fluent with what they already learned and enlarge for themselves their chances to learn the language.

Appeal for assistance consists of three components: explicit, implicit and seeking verification. Given the finding that this type of strategy is used most often by the high proficiency level students, it is advisable that L2 curriculum have special exercises so that even the lower proficiency level students have training in using these cooperative strategies with success.

The strategy of exemplification exploits the speaker's world knowledge. One finding of this study was that often this knowledge was biased by the speaker's own social and cultural backgrounds. For example, in referring to the windmill, the Chinese often used the example of a tall building to grind wheat. In Holland, however, windmills are not used for grinding but to generate power. Thus, L2 speakers need to be aware of such biases when using the exemplification CS.
The paralinguistic approach refers to the use of meaningful mimetic gesture, facial expression, sound-imitations in communicating the target item. The extensive use of the approach by the lower-proficiency speakers in this study suggest that meaningful mime or facial expression can aid the speakers' verbal output or compensate for their insufficient TL knowledge. Although the paralinguistic knowledge may differ from culture to culture, at least, it can counteract some misinterpretations and facilitate communication success. Hence, this area of target knowledge may deserve more attention in L2 teaching.

The finding that the avoidance approach was used most often by the lower proficiency level students is not surprising, given that its use minimizes stress and anxiety. The problem is that the use of this "reduction behavior" (cf. Corder, 1978) results in the learners' refusal to enlarge their opportunities to learning. As a result, the avoidance strategy may hinder the learners' language development. Thus, given their reliance on the avoidance strategy and the disadvantages, lower proficiency level speakers should benefit from training in using alternative CS.
Whether CS should be taught is not at issue. As Faerch and Kasper (1983:55) point out, "if by teaching we mean passing on new information only there is probably no need to 'teach strategy'... But if by teaching we also mean making learners conscious about aspects their (already existing) behaviors, it is obvious that we should teach them about strategies, in particular how to use CS most appropriately." Through the findings of this study, we can realize that L2 curriculum should be devised not only to establish the fundamental L2 linguistic knowledge needed for the learner's negotiation of meaning, but also to equip the learner with some communicative skills to be used in extended communication situations.

Suggestions for Further Studies

It was suggested earlier that the L2 learner's behavior, with regard to the strategy use, is "transitional" and "dynamic". The findings in this study suggest a natural order in the L2 learners' use of CS (cf. Major Findings). It would be interesting to conduct longitudinal studies to find out whether subjects, in terms of their different TL language proficiency levels, consistently exhibit that order. Such an investigation
may provide further evidence on the relationship between grammatical competence and strategy use.

This study exhibited that strategy competence exists alongside with grammatical competence, but it did not deal with the problem about the groups' effective use of CS. Therefore, it would be fruitful to examine the issue whether all the strategies were equal in conveying meaning and whether the different groups use CS with equal effectiveness. However, in a real-life linguistic interaction, a lot of factors will have an effect on the successful communication. Hence, while examining the problem of effectiveness, it would be necessary to consider the cognitive, contextual and social factors which will impinge on successful communication. Future research on such issues will further illuminate the relationships among the components of communicative competence and shed light on the construct of language competence.
NOTES

1. The study of L2 learners' errors, as a significant source of data which could help to reveal the language learning process, was then pursued (Corder, 1967). Error analysis and the observation of systematic errors by learners led to the study of the "Interlanguage". The term "Interlanguage", coined by Selinker (1972), refers to a unique, dynamic linguistic system (rather than a defective form of the TL) resulting from the regular application of hypotheses, rules and strategies. As such, it focused attention on the learners and the cognitive processes at work.

2. According to Blum-Kulka and Levenston (1978), that L2 learners use lexical simplification to convey complex TL meanings is due to the complexity of the task of acquiring command of all aspects of their semantic competence. Semantic competence is acquired by an individual as he experiences a need for paraphrase and circumlocution, for hyponym and synonym, etc. in his L1. Because of lack of TL vocabulary, in the early stages of learning L2, the learner is compelled to reorganize semantic fields on the basis of the principles that govern his L1 semantic competence.
REFERENCES


ACKNOWLEDGMENTS

I would like to thank all those who assisted in the preparation of this thesis. Primarily, I express my gratitude to Dr. Barbara Schwarte, my major professor, for her guidance, inspiration and academic latitude through my graduate study. I am also indebted to the thesis committee members, Dr. Carol Chapelle and Dr. Donald Schuster, for their valuable comments.

I thank Ms. Jen Yen who provided much assistance in the execution of the drawings for this research.

I would express my appreciation to Ms. Shu Hor and Ms. Ann Richards for their contribution in rating the data.

My heartfelt appreciation also goes to Dr. Kenneth Johnson and his wife, Susan, for their patience in proofreading the first draft and for their encouragement.

Special thanks are due as well to all the subjects and native speakers for their valuable time and cooperation.

I am also grateful to my beloved husband, Hung-Yu, for his encouragement and understanding through this research.

Last but not least, sincere appreciation extends to my parents, Dong-Hsueh and Jing-Ding, for their encouragement and support through these years.
APPENDIX A. THE INSTRUMENT FOR PILOT STUDY
APPENDIX B. CLOZE TEST

Directions:

First, read the following text entirely. Then, go back to the beginning and in the corresponding blank on the answer sheet, write the word that you think most appropriately completes each blank in the text. Each blank requires a word, but only ONE WORD. Again, do not write your answers on this page but on the answer sheet provided. Don't spend too much time on any one item. When you finish, you can check your work for coherence and accuracy.
HUMAN AND ANIMAL AGGRESSION

A major reason for conflict in the animal world is territory. The male animal establishes an area. The size of the area is sufficient to provide food for him, his mate (or mates) and their offspring. Migrating birds, for example, divide up __1__ best territory in the order of "__2__ comes, first served." The late arrivals __3__ obtain larger territories, but less food __4__ available, or they are close to __5__ habitats of the enemies of the __6__. If there are insufficient amounts of __7__, or the danger is very great, __8__ animal will not mate. In this __9__, the members of the species which __10__ less fit will not have offspring.

__11__ there are conflicts over territory, animals __12__ commonly use force, or a show __13__ force, to decide which will stay __14__ which will go. It is interesting __15__ note, however, that animals seem to __16__ only the minimum amount of force __17__ drive away the intruder. There usually __18__ no killing. Moreover, in the case __19__ those animals which are capable of __20__ each other great harm (especially carnivores, __21__ sharp teeth and claws designed for __22__) there is a system for the __23__ animal to show the winning animal __24__ he wishes to
submit. When he __25__ this, the winner normally stops fighting. __26__ the case of those animals which __27__ not capable of hurting each other __28__ much, this mechanism does not seem __29__ exist. Animals (especially birds), which can __30__ escape from conflict seem to have __31__ inhibition against killing, and equally no __32__ for submission. The losing bird simply __33__ away. However, it two doves are __34__ in a cage, and they start __35__, they will continue to fight until __36__ kills the other. We all think __37__ the dove as a symbol of __38__ and, in its natural habitat, it __39__ peaceful. But the "peace" mechanism does __40__ function in a cage.

Do human __41__ function in the same way as __42__?
In some ways, obviously, they do. __43__ example, people do not like intruders __44__ their homes, secretaries may often object __45__ people sitting at their desks, and __46__ people may have a seat in __47__ park which they regard as "theirs."

__48__ human groups do not always work __49__ the same way as animal groups __50__. The amount of territory is not usually related the amount of food we need. Also, when there is a conflict over territory, the mechanisms for submission cannot function in the same way today, because
the aggressor often cannot see his opponent. Indeed, the danger caused by this situation is becoming greater ever day due to the increase in the number of remotely-controlled nuclear weapons.
APPENDIX C. THE MAP FOR SUBJECTS
APPENDIX D. THE MAP FOR NATIVE SPEAKERS