



The Linguistics Journal

August 2007
Volume 2, Issue 2

Senior Editors: Paul Robertson and John Adamson



Published by the Linguistics Journal Press

Linguistics Journal Press
A Division of Time Taylor International Ltd
C/- Time Taylor College
Daen Dong
Pusan
S. Korea

© Linguistics Journal Press 2007

This E-book is in copyright. Subject to statutory exception
no reproduction of any part may take place without
the written permission of the Linguistics Journal Press.

No unauthorized photocopying

All rights reserved. No part of this book may be reproduced, stored
in a retrieval system or transmitted in any form or by any means,
electronic, mechanical, photocopying or otherwise, without the prior
written permission of the Asian EFL Journal.
linguisticsj@yahoo.com

Senior Editor: Dr. Paul Robertson
Senior Associate Editor: Dr. John Adamson
Journal Production Editor: Marcus Otlowski

ISSN 1738-1460



Table of Contents:

Foreword by Helmut Daller.....	4-6
1. Forood Sepassi and S. Aryadoust.....	7-32
<i>- Testing the Natural Order Hypothesis on the Framework of the Competition Model</i>	
2. Shu-Chu Chen and Shu-Hui Eileen Chen.....	33-52
<i>- Interlanguage Requests: A Cross-Cultural Study of English and Chinese</i>	
3. I-Ping Wan.....	53-87
<i>- On Correlating Aphasic Errors with Speech Errors in Mandarin</i>	
4. Anastasia Khudyakova.....	88-112
<i>- Metaphors Following the Model 'N of a N'</i>	
5. Fariba Mobini.....	113-130
<i>- Farsi-speaking Learners' Differential Command of Definite Types: A Cross-linguistic Study</i>	



Foreword to August 2007, Volume 2 Issue 2

Foreword

For the second edition of the *Linguistics Journal* for 2007 we are pleased to present five articles. Congratulations to all the authors whose papers have been accepted. Interest in the journal has increased significantly and the structure of the editorial board has been changed accordingly. Three additional Associate Editors, Andrea Milde, Steve Walsh and Francesco Cavallaro have been appointed to supervise submissions. The number of editors reviewing papers has increased as well and a team of proofreaders has been established under the supervision of Marcus Otlowski. We would like to thank all reviewers, editors, proofreaders and authors for their valuable contributions. A special thank goes to the associate editor Julian Good who is moving on. Julian contributed substantially towards the success of the journal.

The first paper by Farood Sepassi from Azad University in Iran and by Seyed Vahid Aryadoust works within the framework of the Competition Model. This model explains the fact that the CM can suggest an explanation why a specific inflectional may be learned earlier. This may be in line with Krashen's Natural Order Hypothesis which states that the specific order of L1 acquisition applies also to learning in a classroom setting, e.g. in foreign language learning the plural-s will be learned before the third person-s similar to the order of acquisition of these morphemes in L1. One of the research questions in this study is whether the Natural Order Hypothesis applies to an EFL context as well, and whether EFL learners pay more attention to rules that are acquired earlier by first language learners. The participants in this study were asked to repeat sentences with plural-s and/or third person-s and to correct these sentences if they were ungrammatical. The findings do not support the Natural Order Hypothesis. The subjects "did not show any significant importance attached to either of the morphemes" (page 23). The authors argue that Krashen's data were probably collected in an ESL context where the learners had access to input outside the classroom, but that this hypothesis may not apply to an EFL context where access to the target language is restricted. I would like to add that the question of a natural order of second language learning/acquisition is an ongoing discussion (see for

example Pienemann, 2005 and EuroSLA 2007)¹, and that there are no final conclusions in this research area.

The second paper comes from Shu-Chu Chen, Yunlin University of Science and Technology, Taiwan and from Shu-Hui Eileen Chen, National Taipei University of Education, Taiwan. The authors compare requestive speech acts of 40 Taiwanese EFL learners with those of 14 American native speakers. Discourse-Completion Tests were used with three different settings (speech acts between equals, speech acts to a speaker with a lower social status and to a speaker with a higher social status). The study shows that Taiwanese learners tend to use more direct requests, whereas the Americans requests have a “milder illocutionary intent” (page 41). The difference between the two groups is very large in the situation where a speaker with a higher status (professor) addresses a hearer with a lower status (student). In this setting the Taiwanese learners use more imperatives and direct request, whereas the Americans tend to use more “hints”. The authors argue for more role plays and model dialogs to teach pragmatic competence in EFL. I would like to add that the findings of this study are in line with other studies (e.g. Daller 2006)² on differences in politeness routines due to cultural differences in “power distance” (see also Hofstede 1997)³.

I-Ping Wan from the National Chengchi University (Taiwan) and Harvard University investigates errors in aphasic speech in the third paper of this volume. She compares a corpus of 1,254 speech errors of aphasic speakers with a corpus of 3,632 speech errors from non-aphasic speakers of Mandarin. Her results show that there are clear differences between the two groups in the distribution of different error types. Most errors of aphasic speakers are phonological, whereas non-aphasic speakers have a tendency to lexical errors. The two groups also show clear differences between the number of contextual and non-contextual errors and between errors that can be classified as “anticipation” or “preservation”. The author comes to the conclusion that “aphasic speech in Mandarin reflects a disturbance of the phonological – rather than the phonetic – mechanisms of

¹ Pienemann, M. (2005). Cross-Linguistic Aspects of Processability Theory

See also EuroSLA 2007 (European Second Language Association Conference), 7th International Symposium on Processability, Bilingualism and Second Language Acquisition; <http://www.ncl.ac.uk/niassh/eurosla17/>

² Daller H. and Yildiz, C. (2006). Globalisation, business communication and the persistence of local business cultures. The case of Turkey, Russia and Western Europe. *Journal of Politeness Research*, Vol 2, pp. 35 - 53.

³ Hofstede G. (1997) Culture and Organizations. Software of the Mind. McGraw Hill

language” (page 81). Finally, the author asks for more research to investigate whether the error patterns in this study are universal for all tone languages.

The fourth contribution comes from Anastasia Khudyakova, Barnaul State Pedagogical University, Russia. She analyses the syntactic and semantic characteristics of a relatively rare form of metaphor, the “N of a N” metaphor (e.g. “a pearl of a song”). After a discussion of two theoretical frameworks, the *conceptual metaphor theory* and the *conceptual blending theory*, a detailed classification of this type of metaphor is presented. In addition there is an overview on the interaction between the two elements of the metaphor, the target and the source domain. The author discusses a selection of “N of a N” metaphors on the basis of the *conceptual blend model*. Finally, the author raises the question for further research whether the selection of concepts and the model developed in this paper can be applied to languages other than English.

The final paper is written by Fariba Mobini from the University of Zanjan, Iran. She investigates a notoriously problematic area for EFL learners, the definite article in English. Her study is based on a stratified sample of 276 students of Zanjan University. A test for definite articles in English and a test for definite noun phrases in Farsi were administered. Apart from one exception there was no significant correlation between the English test and the students’ grades of general English. This supports the hypothesis that article use remains a problem even at higher levels of proficiency. There were no significant correlations between the test scores in English and the scores in Farsi, indicating that article use in English is also a problem for highly competent L1 speakers. In summary, this study confirms that the use of the definite article remains a problematic area regardless of the proficiency level of the participants.

Helmut Daller, PhD

Associate Editor

The Linguistics Journal



Testing the Natural Order Hypothesis on the Framework of The Competition Model

Forood Sepassi & Seyed Vahid Aryadoust
Shiraz Azad University, Iran

Bio data:

Forood Sepassi, Ph.D., is an associate professor at Shiraz Azad University and is interested in Psycholinguistics. He supervises MA theses and has published papers in *Asian EFL Journal*.

Seyed Vahid Aryadoust has an MA in TEFL from Shiraz Azad University. He has written seven books on different subjects such as Sociolinguistics, Pragmatics, IELTS, and general English. His areas of interest are psycholinguistics, second language acquisition, testing (especially teaching and studying the validity and reliability of IELTS, TOEFL iBT and PBT), Sociolinguistics, and Pragmatics.

Abstract

The issue of natural order in acquiring some morphemes in English has been a controversial one in psycholinguistics and applied linguistics. This article seeks to test Krashen's Natural Order Hypothesis employing the Competition Model among two age groups of pre-adolescent and adult age in an EFL setting. Research on this issue has been mostly conducted in ESL settings and the results have been generalized to EFL environments. The present study conducted with 60 Iranian EFL learners in two different age groups of 12 to 13 and 17 above. The participants were asked to say the sentences they heard and meanwhile apply changes wherever necessary. The results showed that, contrary to what Krashen has claimed neither plural -s nor third person -s appears to be acquired earlier.

Key words: natural language processing, Natural Order Hypothesis, Competition Model, Critical Age Hypothesis.

1. Introduction

A controversial issue in psycholinguistics has been the relationship between learner age and patterns of language acquisition. During the twentieth century, many notable educators have argued for "an early age start in second language learning". On the other hand, some other researchers have found that older learners tend to syntactically outperform the younger ones (Krashen, 1982, pp. 166-168). These claims brought about the conclusion that the age differences among learners may play a significant role in learning a 2nd

language. Hence, the present study aims at studying the behavior of two groups of EFL learners, to correspond to the Critical Age Theory of Lenneberg (1967).

1.1. Objectives

The hypothetical framework on which this study rests is attributed to studies of L1 and L2 processing. Nonetheless, Krashen (1988) states that there might be a difference in findings upon administering the same or similar tests to EFL learners. In the realm of EFL, in reality, few studies have been conducted to shed light on the issue of naturally-ordered learning of grammatical morphemes among learners before and after their critical period. It is the aim of this study to employ the psycholinguistic "Competition Model" as a practical tool to provide further insight on how the age of EFL learners affects the order in which they learn two morphemes, namely the third person singular (-s) and the plural (-s).

1.2. Significance of the study

The present study has both empirical and theoretical implications. The present study might be particularly useful in explicating the way EFL learners internally process the language, that they are learning, in this case English. In addition, in the light of the task invoked, we may gain more insight into the order of acquisition as an aid to syllabus designers, EFL teachers, and educators in developing appropriate syllabi and pertinent teaching techniques. This research study sought to examine the following issues:

1. The order through which the morpheme of third person (-s) and the morpheme of plural (-s) in young learners under 13 or in adult learners above 17 in an EFL context are acquired.
2. Finding out if the Natural Order Hypothesis is valid for EFL young learners who are below and/or above the age of puberty.
3. The way the competition among cues plays roles in distinguishing the morphemes needed to be used in their appropriate position.

2. Review of Literature

2.1. Theoretical Framework

In the second half of the twentieth century, research on first language acquisition and its application in classroom drew the attention of linguists of every persuasion as well as educators. Most standard textbooks and curricula are based on first language acquisition, so

that the order in which grammatical morphemes are presented in an educational setting is based on data from first language acquisition.

But it may not be possible to generalize the findings from first language research to the second language. One must bear in mind that first language acquisition starts in childhood and 2nd language learning is mostly related to adulthood. The idea of putting 1st and 2nd language acquisition within the same framework, brought about a lot of new findings and at the same time created serious problems in the realm of linguistics and teaching. Brown (2000; p.51), for instance, mentions "...second language researchers and foreign language teachers began to recognize the mistakes in drawing direct global analogies between first and second language acquisitions".

2.1.1. The Critical Period Hypothesis (C.P.H.)

There is ample evidence that language acquisition is more a function of the age of the learner than any other factor. In relation to this idea, Lenneberg (1967) argued for the crucial effect of the age factor. He was of the opinion that the critical age period ranges from two to puberty. The cornerstone of his hypothesis is the concept of Brain Lateralization (Cerebral Dominance). Many have attempted to define the term "Lateralization" as precisely as possible. Among them, Richards and Schmidt (2002, p.68) mention "Lateralization [is] the development of control over different functions in different parts of the brain...Those parts of the brain that control language are usually in the left hemisphere".

In Lenneberg's view, due to the fact that language acquisition period terminates at puberty (i.e. as a result of lateralization), post-adolescent language acquisition is difficult. Hence, complete learning of a second language could not be possible after lateralization takes place. Mention should be made of the opponents of this hypothesis who are of the opinion that although there is a gradual decline in acquiring a second language, there cannot be any sharp breaks spotted to be called The Critical Age. That is why they have preferred to use another terminology, Sensitive Period. This latter idea, however, is more subject to dispute in comparison with the C.A.H.

The dominant standpoint, amongst a large amount of literature, is that there certainly exists a phenomenon by the name of lateralization. The argument is about the exact age when this process reaches completion. Krashen (1980), among many others, proposed a much earlier age, five. The same hypothesis was put forward by Scovel (1984, p. 57): "One

must be careful to distinguish between ‘emergence’ of lateralization (at birth, but quite evident at five) and ‘completion’ (only evident at about puberty)”.

2.1.2. The Natural Order Hypothesis

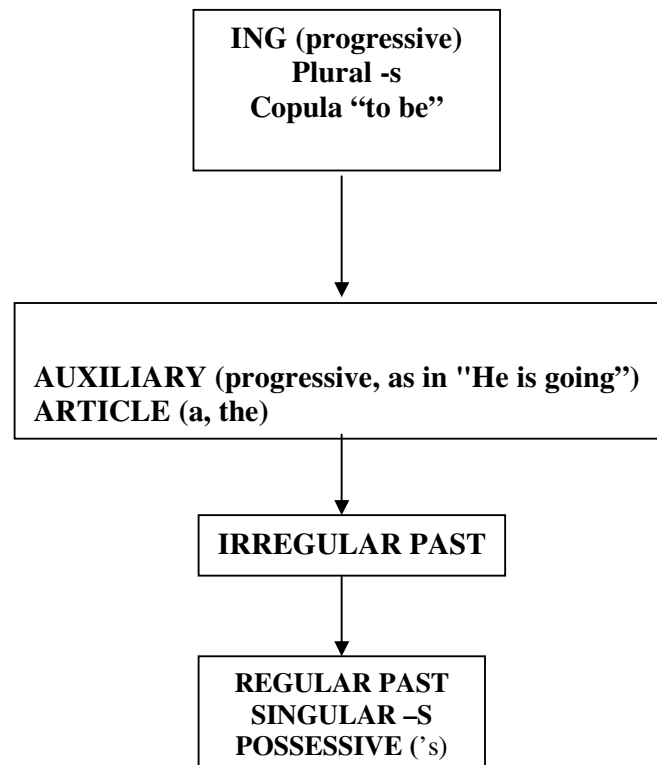
The N.O.H. is defined as:

“The hypothesis that children acquiring their first language acquire linguistic forms, rules, and items in a similar order. For example, in English children acquire progressive -ing, plural -s, and active sentences before they acquire third person –s on verbs, or passive sentences” (Richards & Schmidt, 2002). This hypothesis was proposed by Krashen (1980). He believed that there was no noticeable difference, regarding the order of learning grammatical morphemes, between those whose exposure to second language takes place in the classroom and learners who are in an informal (out-of-classroom) context.

The first evidence for the Natural Order Hypothesis appears to come from ESL studies. “In 1974, Dulay and Burt published a study of what they called the order of acquisition of grammatical morphemes or ‘factors’ in English by five-to-eight-year-old children learning English as a second language” (McLaughlin, 1991, p. 89). In their research, Dulay and Burt utilized the Bilingual Syntax Measure, presenting cartoon pictures followed by questions. The idea was based on Brown (1973), which set forth an ‘invariant’ or common sequence “of acquisition for at least 14 factors, or function words in English that have a minor role in conveying sentence meaning” (McLaughlin, 1987). Chastain (1988, p. 74), trying to put the issue more into perspective, suggests that this does not “mean that all learners acquire language in the same order at the same time, but that similarities exist among learners and that they will learn some STRUCTURES early and some late”.

Table 1.1, from Krashen (1977) cited in Krashen (1987), illustrates an average order of second language acquisition.

Table 1.1. Average order of second language acquisition, in English



2.1.3. The Competition Model (C.M.)

Like other data-driven, connectionist models, the Competition Model allows statistical properties of the input to play a major role in determining the order of acquisition as well as the nature of the final state (MacWhinney & Bates, 1984). In point of fact, the existing language acquisition models have not yet taken seriously two essential facets of the acquisition process, both of which offer contribution to its variability: 1. cross-linguistic variation. 2. Individual differences amongst learners within a particular language.

The Competition Model relies on four cues – two grammatical, one prosodic, and one semantic: *preverbal placement*, *agreement markers*, *stress*, and *animacy*. These cues map the level of form to the level of function. They also compete with each other in order to grasp more space in the mind. In fact, the model holds “Whatever the speaker wants to communicate has to be achieved through these four.....So, the more a language uses information, the less it can rely on word order, the more emphasis it has on word-forms, the less on word order; and so on.” (Cook, 1991, p. 124)

2.1.3.1. Competition and Direct Mapping

Competition is the basic notion in most information-processing models in cognitive psychology. The C.M. computational model is similar to those occurring in other cognitive models of acquisition. The cues may unanimously boost the identification of the subject/agent, or one of them may undermine such a candidacy when in a state of conflict or competition with other cue(s). (Heilenman & MacDonald, 1993)

Direct mapping, on the other hand, models performance using only two levels of representation; namely, a *function* level (where all meanings and forms correspond) and a *formal* level (where all the surface forms or expressive devices available in the language are represented) (MacWhinney & Bates, 1984). The following instances help to illuminate the mechanism of mapping:

1. The teacher teaches the students.

In statement (1), three cues - preverbal placement, noun animacy, and verb agreement- in conjunction with each other boost the candidacy of the first noun phrase, *the teacher*, as the actor/ agent/ topic/ and subject.

2. The machine teaches the children.

Statement (2) presents two grammatical cues, preverbal placement and singular verb agreement, to indicate the first noun phrase as the actor/ agent/ topic/ and subject.

3. The books are compiled by the teachers.

Here; one observes that the functions may not necessarily co-exist. "The book" is the patient placed in the preverbal position rather than the agent. Noun animacy and the preposition (by) collaborate to boost the candidacy of *the teachers* as agent/actor.

2.1.3.2. Cue Validity

Psychological mechanisms in human beings attach information value or validity to cues. In other words, validity is an objective property of certain cues. Cue validity, in essence, is "the major predictive construct in the Competition Model. The theory of cue validity is composed of two components: *cue availability* and *cue reliability*" (MacWhinney and Bates, 1984)

2.1.3.3. Cue Availability

This concept exercises a significant role in this study it is defined as how often a piece of information is offered during a decision making process. It is presented in terms of numbers in McDonald's (1984) scheme as the following proportion:

"Cases wherein cue is available the total number of cases in a task domain to take an example, the availability of accusative case (*ra*) in Persian is very high. The same case is available in some other languages, such as German, but not as frequent as that in Persian. Needless to say, in modern English, accusative case has no availability." (Sepassi, 2002)

2.1.3.4. Cue Reliability

Another component in the Competition Model seeks to clarify how often the cue leads to a correct conclusion when it is used. This concept can be numerically expressed as the following fraction:

The cases in which a cue leads to the correct conclusion over the number of cases in which it is available; for instance, preverbal position is a highly reliable cue in English; , for, it is always assigned to the agent of a transitive action. Nevertheless, it is not reliable at all in Persian since OV and SOV syntactical constructions are possible.

2.1.3.5. Cue Strength

Unlike cue validity, cue strength is a subjective property of the individual's knowledge. Being quintessentially a connectionist notion, "it refers to the probability or weight that the organism attaches to a given piece of information relative to some goal (MacWhinney, 1978, p. 8). "In psycholinguistics, a link between two levels is assumed to make an instantiation out of it. On the one hand, the surface form is considered and, on the other hand, an underlying function. The link between these two is given a weight or strength."

2.1.3.6. Ongoing Updating

This theory holds that the parser engages in an ongoing updating of assignments of noun to roles. For example, when parsing a sentence such as "*the dogs are chasing the cat*", the assignment of "dogs" as the agent is first promoted by its appearance as the initial noun. Then the fact that "are chasing" agrees with "dogs" in number further supports its assignment. Finally, when the singular noun "cat" appears post-verbally, its binding to the object case role further supports the candidacy of "dogs" as the agents. Thus, at each point in sentence processing the mapping from the lexical item "dogs" to the agent role is updated. In this particular case, each updating increases the strength of this assignment (MacWhinney, 1978). In other words, the concept of competition is founded on the assumption that as the parser moves through the sentence, cues are used to boost or

undermine the candidacy of each noun for the agency role. This process is also referred to as "ongoing updating" (MacWhinney, 1989; cited in Sepassi, 2002).

2.1.3.7. Perceivability

Perceivability refers "to the extent to which a listener encounters difficulty in trying to detect a cue in sentence processing" (MacWhinney, 1989, p.179). "If a subject is asked to correct a grammatically ill-formed sentence like: "The drivers drive the cars", she might invoke [at least] two ways the former of which would be:

(1) *The drivers drive the cars*

And the latter is:

(2) *The driver drives the cars.*

In correction number 1, the parser might have encountered difficulty in attempting to properly detect the third person –s cue in sentence processing. Therefore, this correction lacks the third person –s perceivability. A similar analogy can be made about the second way of correcting the sentence." (MacWhinney, Personal correspondence, February 5, 2006)

2.2. Empirical Literature

Besides Krashen, other researchers have attempted to substantiate that there is an order of acquiring various grammatical morphemes in English as a first language. Brown (2000), for instance, "demonstrates that on obligatory occasions certain morphemes, such as -ing and plural -s, tend to be acquired relatively early, while others, such as the third person singular -s on verb in the present tense or the possessive 's marker tend to be acquired late. Brown's longitudinal (study) findings were confirmed cross-sectionally by De Villiers and De Villiers (1973). The discovery was extended to child second language acquisition by Dulay and Burt (1972; 1974; 1976) in several cross sectional studies...."

Bailey, Madden, and Krashen (1974) employing a SLOPE test, found that adult 2nd language learners displayed a "natural order" for eight grammatical morphemes. The study showed that there was no difference in rank order between Spanish Speakers and non-Spanish Speakers. (SLOPE stands for *Second Language Oral Production Exam*, a test which estimates general oral ability of candidates by having them produce specific English grammatical structures. Then, diagnostic scores are produced on these structures (Moussavi, 1999). This test was designed by Ann Fathman (1976), who employed it to

collect evidence that the previous findings by Krashen and other researchers mentioned above were valid.

In another study, Roger Anderson (1978) made use of compositions in Puerto Rico. He, too, obtained some similar results authenticating the natural order reported by Krashen and others. Soon after this study, Krashen, Butler, Birnbaum, and Robertson (1978) employed a composition task to add to the body of evidence corroborating the order of acquiring the mentioned morphemes. They asked subjects, all of whom were ESL students, to write compositions under two conditions. First, they were expected to write "fast"; they were required to write as much as possible about a given topic in a short time. After completing this task, they were encouraged to go over their work carefully and edit it. After collecting data and interpreting them, the team of researchers found a *natural order* under both conditions.

The result was interpreted as showing that students were concerned with communication when writing rather than with form; apparently, the "focus on form" condition for monitor use... is more crucial for bringing out the monitor than is the "time" condition...this is not to say they did not edit - it does imply that when they do edit, they do not use their conscious knowledge to any great extent when communicating (Krashen, 1988).

3. Methodology

3.1. Participants

This study was conducted with 60 intermediate pre-adolescent learners of 12 to 13 and 17 to 20 age groups all of whom had been learning English in Dibaagaran Language Institute (DLL), Shiraz, Iran. The reasons for selecting these two groups of students is that first of all they are of similar socio-economic background as well as the fact that the younger group had not yet found the opportunity to analyze syntactical structures in English as the adults had. Apart from the other practical hints mentioned on employing the C.M., it is deemed crucial to make use of the two different age groups with the above-mentioned characteristics in addition to strictly controlling some intervening factors, such as the task and behaviors elicited (MacWhinney, personal correspondence, February 14, 2006).

At the time of the interview, the subjects who had just started their intermediate-level course had been put through a program exposing them to 190 hours of formal instruction in English L2. Furthermore, the participants' grade point average for their previous term fell in the range of 85 to 95 out of 100. In teaching the subjects, a homogeneous methodology and syllabi had been used. Then, the sample was classified into two distinct age groups:

- a) 12-13-year-olds, to accord with Lenneberg's Critical Age Hypothesis which considers this two-year span as the point where the individual's language acquisition ability hits a trough;
- b) 17-20- year-olds, to take into consideration the gradual loss of control over the motor skills in the adult learners.

3. 2. Stimuli

A list of 24 audio-taped sentences was prepared. In order to prepare the sample sentences, a vocabulary pool containing some animate nouns, inanimate nouns, and transitive verbs was made. Every sentence contained an animate agent/subject, a transitive verb, and an inanimate object/patient following the pattern of Np1, Vp, Np2. Three sentences were formed for each one of the eight patterns (see Table 3.1), totaling 24 sentences. In order to control every intervening variable, the following measures were taken:

- a) The first noun phrases (Np1) were selected to be animate.
- b) All verbs (Vps) were chosen to be transitive ones so that they would be followed by a direct object.
- c) All the second noun phrases (Np2) juxtaposed after the verbs were arranged to be inanimate.

Some of the stimulus sentences are as:

The salesperson sells the houses.

The waiter cleans the tables.

The robber steals the bicycles.

One more important point was the fact that all words, verbs and nouns, in the preliminary vocabulary pool were chosen pertinent to and within the proficiency level of the candidates (see appendix C). A complete list of all 24 sentences is provided in appendix B. The 24 sentences in connection with the possibility of having plural (-s) in subject and object positions as well as the possibility of including or excluding grammar violation had the following structure:

Table 3.1. Possible patterns used to make sample sentences

	Subject (Np1)	Verb (Vp)	Object (Np2)
*1	Plural -s	Third person -s	Plural -s
*2	Plural -s	Third person -s	O (no plural -s on Np2)
3	Plural -s	O (no third person -s on the verb)	O (no plural -s on Np2)
4	Plural -s	O (no third person -s on the verb)	Plural -s
5	O (no plural -s on Np1)	Third person -s	Plural -s
*6	O (no plural -s on Np1)	O (no third person -s on the verb)	Plural -s
7	O (no plural -s on Np1)	Third person -s	O (no plural -s on Np2)
*8	O (no plural -s on Np1)	O (no third person -s on the verb)	O (no plural -s on Np2)

[Ungrammatical patterns are indicated with *]

Most of these sentences had some competitions embedded in them. They were to be played for the candidates and the candidates were to repeat them and, in the meantime, correct the grammatical violation they might run into. So, it was deemed necessary that the subjects be told that they would encounter grammar violations which they had to correct orally (MacWhinney, personal correspondence, January 26, 2006). It is also useful to mention that every sentence was likely to be modified in eight ways by the participants; four of these are held to be correct responses. These correct responses are as follows:

[SOS], for example *The drivers drive the cars.*

[SOO], for example *The boys eat the apple.*

[OSS], for example *The doctor sees the books.*

[OSO], for example *The pilot flies the plane.*

To elaborate, we can conclude that in correction types of SOS and SOO, cue validity and cue availability of plural -s are in higher than those of third person -s. However, in OSS

OSO corrections, cue validity and cue availability of third person –s are higher because the subjects have paid attention and used third person –s to correct the sentences.

The utterances of the participants were tape-recorded. The tape was reviewed thoroughly later in order to analyze the data.

3.3. Administration procedure

The task was conducted over the course of one week, from April 14 to April 21, 2006. Each single administration lasted for about 5 minutes. Owing to the fact that the researcher, himself, was the only interviewer, in order to minimize the fatigue attributed to protracting sessions, in every sitting no more than 6 subjects were interviewed. The participants were seated, one at a time, before the interviewer across a table. As mentioned before, two tape recorders were made use of, one to play the set of pre-recorded sentences and the other to record the participant's responses. One potential problem was the anxiety that might have arisen in the subjects. In order to alleviate this problem, the subjects were assured the task would not have any effect on their class grades.

After this, the participants were supplied with instructions as follows:

- i) They were told that the sentences might contain grammatical violations which had to be corrected, or might be free of them.
- ii) In order not to activate their monitor, no wrong production by the subjects was corrected. They, hence, were assured that the interviewer would not interfere with their responding process. This, in turn, mitigated their affective condition in that they were not disturbed by the pressure of receiving negative feedbacks from the interviewer.
- iii) The participants were supposed to withhold their replies until the completion of the sentence that was being played.
- iv) After playing each sentence, a five-second interval for the onset of production of each sentence was incorporated into fulfilling the task. They were allotted 10 seconds to commence, continue, and terminate every sentence, then. For each participant, production of all the responses took about 5 minutes.

4. Results and Discussion

4.1. Plural -s on Np1 and third person -s on Vp in production

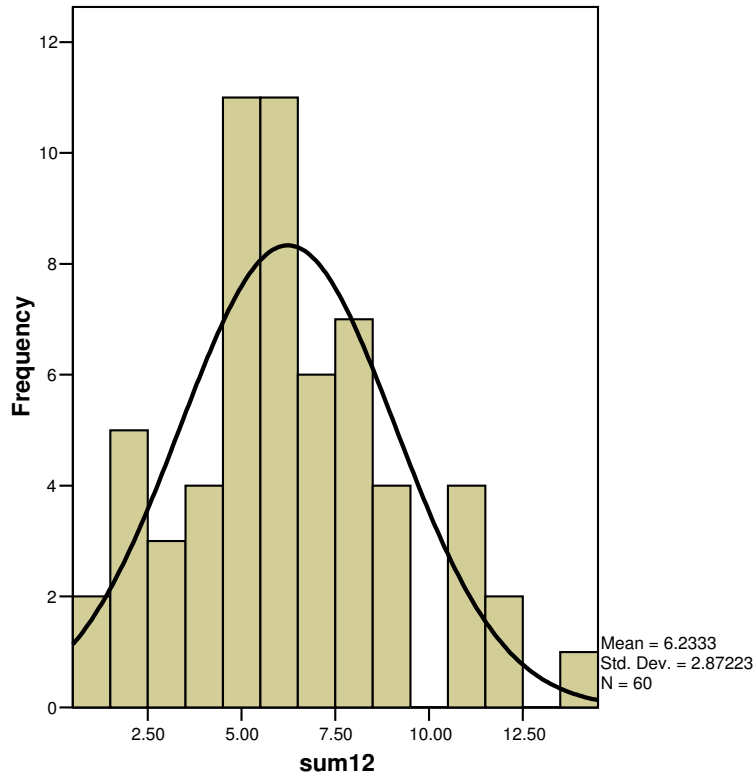
After obtaining the results from both age-groups, the raw data were tabulated for analysis. Recall that Krashen (1980) reports that the ESL learners of the age before lateralization

acquire the plural (-s) before the third person (-s). In Competition Model terms, this means that Krashen assumes that the cue validity and reliability as well as cue strength of plural -s are more than those of third person -s and hence the subjects have mastered them earlier. Many test results obtained from various studies substantiate the claim. The same analogy has been made about the ESL learners who have just passed their lateralization period. Moreover, Krashen (1980) asserts that regardless of the type of learning, whether in an educational setting or in a community, the same order of acquisition is always observed.

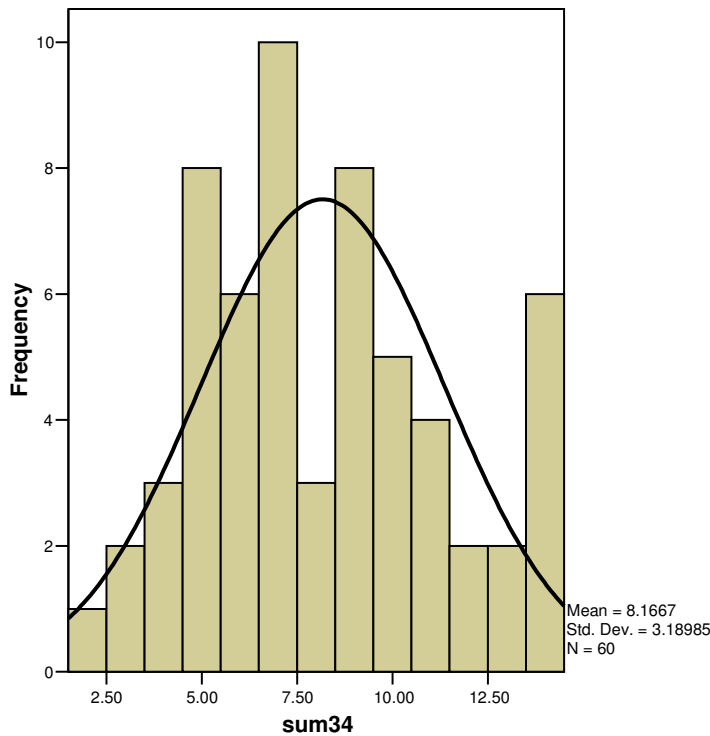
It appeared from the analysis of the results of the present study that the distribution of the data was not normal. Therefore, we employed a Mann-Whitney test in order to compare the obtained mean instances of the four-hitherto mentioned correction types in group 1 (adult learners) and those in group 2 (pre-adolescent learners), *independently*. The following graphs show the non-normal distribution of the data gathered. Also, the P-P Plot graphs corroborate the fact that the distribution of the data was not normal (see Appendix A).

Graphs 4.1 and 4.2 provide an overview of the overall distribution of the two correction forms that confirm the attention the subjects paid to employing plural -s on Np1 and third person -s on Vp, respectively. It is clear from the graphs (histograms) that the distributions are not normal. Hence, it was decided to utilize the non-parametric tests, i.e. Mann-Whitney and Wilcoxon, which are useful for situations where the data are not normally distributed.

Graph 4.1 The distribution of the sum of the two correction types showing the attention paid to plural -s on Np1; that is [SOO] and [SOS].



Graph 4.2 The distribution of the sum of two correction types showing the attention paid to third person -s on Vp1; that is, [OSS] and [OSO].



After tabulating the raw data, a Mann-Whitney test revealed that the sum of corrections of types [SOO] and [SOS] used by the subjects to reproduce the sample sentences was dominant in group 1, i.e. the obtained P-value of 0.12 was not statistically significant. They, therefore, do not pay enough attention to plural -s, which is evidence to claim they have not mastered this structure yet. So, the immediate conclusion is that the performances in this group did not show a significantly high cue reliability and validity for the plural marker on the subject.

In addition, none of the other behaviors, i.e. the correction types [OSO] and [OSS], could be in line with the Critical Age Hypothesis' claim. The mean reports in Table 4.1. demonstrated high standard deviations in both groups. A comparison of this study's learners and Krashen's ESL learners revealed that although within both age groups the ESL learners in an English-speaking environment followed the order of learning of the two morphemes, as claimed by Krashen (1988) and others, EFL learners did not display the same behavior. The tables below show how many [SOS], [SOO], [OSS], and [OSO] structures have been produced by the subjects. These structures are considered grammatically correct reproductions.

Table 4.1. Instances of the Four Correct Reproductions in Group(s) 1 & 2

Group	C1(SOO)	C2 (SOS)	C3 (OSS)	C4 (OSO)
Mean	2.0333	4.8667	1.0667	6.4667
N	30	30	30	30
Std. Deviation	1.58622	2.16131	1.08066	3.12645
Mean	1.0667	4.5000	1.1000	7.7000
N	30	30	30	30
Std. Deviation	1.36289	1.88917	.80301	3.43561
Total Mean	1.5500	4.6833	1.0833	7.0833
N	60	60	60	60
Std. Deviation	1.54509	2.02101	.94406	3.31556
p-value	0.12	0.6	0.76	0.19

Then, a Wilcoxon test was used to compare the sum of mean instances of the structures illustrating the tendency of the participants towards employing either plural –s on Np1 or third person –s on Vp. In other words, the sum of [SOO] and [SOS] (labeled C1 & C2) was compared with that of [OSO] and [OSS] (labeled C3 & C4) in order to find out if third person –s would outweigh the production of plural –s in Np1 or vice versa. The summary of this comparison is given in Tables 4.2 and 4.3.

In Table 4.2., the mean instances of 6.9 and 5.667 for the age groups 1 and 2 respectively showed that the subjects did not attend to plural –s on Np1. Similarly, the means 7.5333 and 8.8 for groups 1 and 2 proved the lack of grasping third person morpheme -s on the verbs. The conclusion is that one can claim that both age groups had neither a strong command of plural -s nor of third person -s morphemes.

Table 4.2 Mean and Standard Deviations of the subjects' performances

Group	Sum12 (C1&C2)	Sum34 (C3&C4)
1 Mean	6.9000	7.5333
N	30	30
Std. Deviation	3.38710	2.88556
2 Mean	5.5667	8.8000
N	30	30
Std. Deviation	2.0	3.39777
Total Mean	6.2333	8.1667
N	60	60
Std. Deviation	2.87223	3.18985
P-value	0.177	0.103

Finally, Table 4.3 provides two p-values, 0.177 and 0.103, which are not statistically significant. A direct conclusion is that, there is no systematic inclination towards employing either the plural -s on Np1 or the third person -s on Vp.

Table 4.3 The Results of Mann-Whitney, Wilcoxon Tests, and P-values (Inferential statistics)

Test & Obtained Values	Sum12	Sum34
Mann-Whitney	359.500	340.500
Wilcoxon	824.500	805.500
P-value	0.177	0.103

4.2. Plural -s on Np2

In order to find out the significance of the data, Chi-square and the p-value of these percentiles were calculated. The Chi-square of 5.212 and the p-value of .2 appeared not to be statistically significant. Hence, in correct reproductions containing plural –s on Np2, there was no significant difference between the two age group learners. Therefore, one might claim that they had not attached a higher significance to employing plural –s on Np2 and this, in addition to the previously mentioned performance of the participants, provides evidence that they have not mastered the structures, yet. The results are demonstrated in Table 4.4.

Table 4.4 Pearson Chi-Square Value, relevant to Plural -s on Np2

	Value	df	P-Value
Pearson Chi-Square	5.212b	1	.022

The total of correct performances and *incorrect* ones containing plural –s on Np2 is summarized in Table 4.5. The table indicates no considerable difference in the percentage of Np2 responses which contain the plural –s. This difference again indicated that grasping -s as a plural-maker morpheme on Np2 in Group 1 (adult learners) and in Group 2 (young learners) is similarly non-significant. Table 4.5 provides a Chi-Square value of 9.192 and a p-value of .2.

Table 4.5 The total of correct performances and incorrect ones containing plural –s on Np2

Chi-Square value	P-value	Df
9.192	0.2	1

And finally, to check that there are no differences due to the different sets of words used to exemplify the eight patterns, an ANOVA was run. The results are shown in the following table, table 4.6.

Table 4.6 ANOVA run to make sure there are no differences due to the different sets of words used

		Sum of Squares	df	Mean Square	F	Sig.
sum12	Between Groups	44.844	5	8.969	1.096	.373
	Within Groups	441.889	54	8.183		
	Total	486.733	59			
sum34	Between Groups	80.358	5	16.072	1.669	.158
	Within Groups	519.975	54	9.629		
	Total	600.333	59			

The table above demonstrates there is no significant result observed.

5. Conclusions and Educational Implications

5.1. Testing the Natural Order Hypothesis and the C.M.

The Natural Order Hypothesis, proposed by Krashen (1980), holds that regardless of whether the learners' setting or their exposure to the SL has been in an informal context, all individuals will show the same pattern in learning the basic grammatical morphemes. The explanation that the C.M. may provide is to learn any special structure in advance of others means that in the competition among cues, the structure which was preferred to the others has outweighed them. In this regard, to claim learning plural –s always precedes the third person –s means that the plural –s enjoys a higher cue availability. That is to say, the following fraction will be a considerable one:

$$\frac{\text{Cases wherein the cue is available}}{\text{The total number of cases in a task domain}} = \text{Cue availability}$$

In this study, the statistics did not demonstrate any significant importance attached to either of the morphemes. That is, no order of acquisition, which is manifested through the attention paid by the learners to the morphemes in the stimulus sentences, was observed. The cue availability of both plural –s and third person –s as well as their reliability were found too low and they were considered not to be mastered by the EFL learners in both age groups. As a result, one may claim, based on the results of this study, that the hypothesis postulated by Krashen (1980) regarding the order of acquisition may not be true with regard to EFL learners. That is to say, neither of the two groups of candidates showed a tendency to prefer plural –s in Nps or third person –s in VP. It appears that even age did not work as a factor in acquiring plural and third person –s as the cue reliability of the performances of the two age groups are not statistically significant.

The reason may be attributed to the fact that Krashen and others mentioned in this study had collected data in the settings where English was spoken as the first language and learned as the second one. They, then, generalized the results to the EFL settings. However, the learners' exposure to English in these two settings is very different. ESL learners have certainly a better opportunity to 'pick up' the language and may follow the order claimed by Krashen. However, the EFL learners do not have this opportunity and their exposure to English is far less than that of the former group. Thus, it is not appropriate to over-generalize the results of the studies carried out in ESL contexts to EFL contexts.

Meanwhile, one must highlight the fact that in both groups the comparison between two kinds of performance carried out by the candidates indicated that the structure [SOO] in comparison with [SOS] and the structure [OSO] in comparison with [OSS] in each group showed lower strength. The P-value obtained for groups 1 and 2 in both cases is 0.2 which is evidence that the cue validity, cue availability, and cue reliability of the structures containing plural –s on their Np2 are not significant. Further, the subjects displayed poor perception in that their attempts to properly spot the third person –s or the plural –s cues in sentence processing failed.

In the present writers' opinion, there can be two justifications for the subjects' behavior. One is that their performance proves no more significant attentiveness to the plural –s on

the first and last Np heard in the stream of input than their inattentiveness to plural –s on both first and last Np.

The other justification concerns the competition between cues. Namely, in the competition between plural –s, third person –s, and Np1, the winner which turns out to be dominant is animacy. On the other hand, the animacy cue seems to be a more available, valid, and reliable cue in its competition against third person –s and plural –s. It can even prepare grounds for conducting further research studies. However, we should remember one important point. A huge unpredicted pattern in the data may have rather interesting implications for the Competition Model. The singular verb (-s marked) is likely to be used - and ONLY likely to be used - when BOTH the subject and object are singular, and the plural verb (0 marked) is similarly likely to be used only when both subject and object are plural. This is not a pattern of either language (Farsi which is the first language of the participants and English, their second language), but it suggests that the free word order and agreement morphology of Farsi may be deeply affecting the participants' response to English agreement. Even explaining it in the C.M. is novel, because the explanation may require transference of the bi-directional subject-verb agreement cue from Farsi to correct subject-verb agreement in English plus a non-existent cue of noun-after-verb agreement in English.

Also, in the light of the opposed findings of the present study and those of Krashen's (1980) study, the following explanations may be offered. First, as mentioned above, Krashen's studies were completely conducted in an ESL context whereas the candidates participating in the present study were all learning their English in an EFL context. This fact also shows that the anticipation that he made a perfunctory attempt in conducting studies in EFL contexts. Meanwhile, he strongly claimed the possibility of generalizing his findings about the ESL learners to EFL learners.

Second, the subjects of the present study had all been exposed to L2 in a planned setting, using a special English material. Clearly, the more an individual is exposed to a special structure, the higher the possibility to acquire it. However, Krashen's (1980) conjecture is deemed inappropriate in that his claim does not elucidate what EFL learners he has meant and with what background. In addition, it is also necessary to indicate the hours of the EFL learner's exposure to English. It goes without saying that ESL learners are 'immersed' in the context of the second language they are learning. But this condition is not

met when turning to the EFL learners. Hence, the analogy made by Krashen (1980) does not seem to be logical.

Furthermore, one must bear in mind that residing in an L2 environment always facilitates learning the target language. And due to the haphazard nature of L2 input in a natural environment, it is impossible to claim that the subjects of the studies of the same nature had the advantage of the same load of input as the ESL learners do. To recapitulate briefly, it appears very difficult to generalize the findings in a second language acquisition context to a FL (foreign language) setting.

Finally, to explain the observed behavior of the participants, there may be two possible explanations: the failure to show a difference in the rate acquisition of the plural and third singular endings might be because that none of the students have really learned either morpheme, yet. Or else, that novel paradigm used by the researchers might not be sensitive enough to pick up the amount of learning of each that has taken place. Thus, there are future plans to look for further evidence on both of those points.

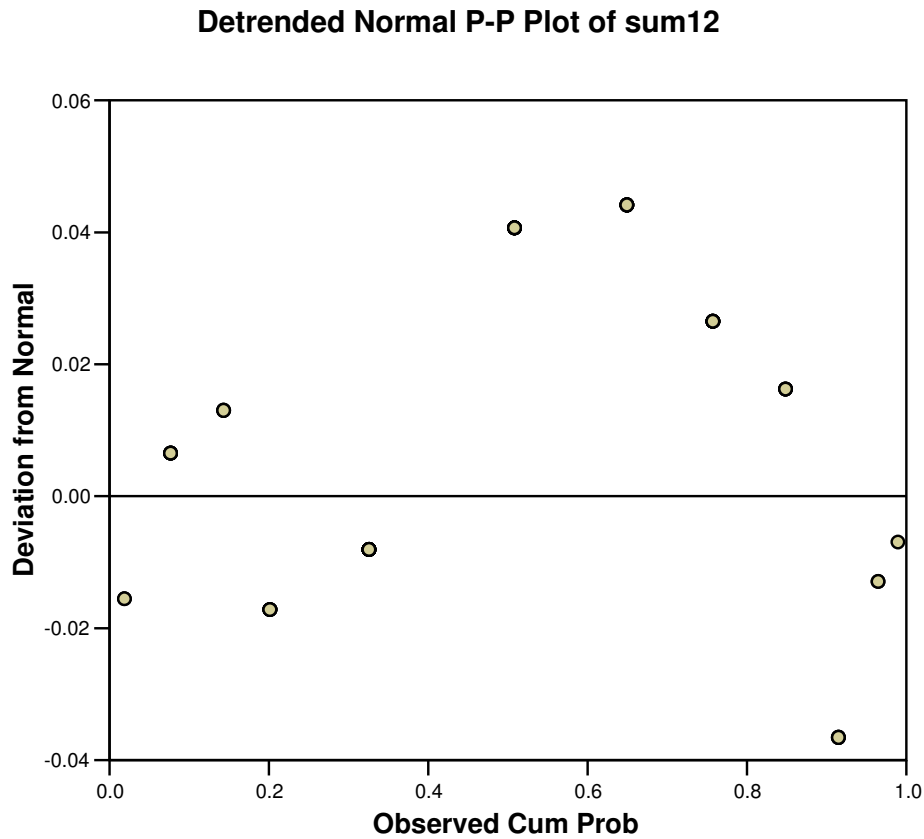
5.2. Educational Implications

Talking of the pedagogical overtones of the findings, we can point out two important considerations drawn upon the results attained in this study. A major effort needs to be undertaken in re-designing those syllabi that rest heavily on the theories that resemble Krashen's. Further, perhaps both teachers and designers need to lay more emphasis on a grammar which is more morpheme-based. This routine could be more practical in EFL environments in replacing a bundle of materials used in an EFL context, but originally designed for the ESL environments.

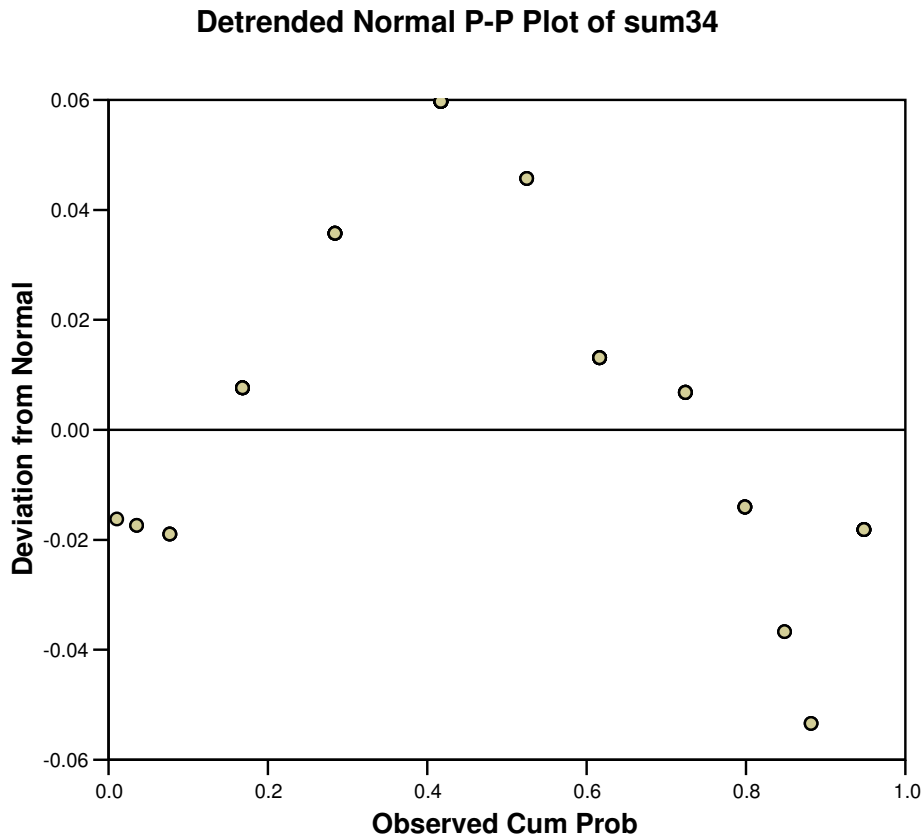
However, the considerable difference in producing the plural –s in Np2 might be an indicator that it is about time that the language schools paid more attention to the age of learners. More often than not, due to extrinsic considerations in abundance, EFL learners of different ages are enrolled in the same class, but more attention must be paid to the learners and their preferences according to their age. It is hoped that the linguists take steps in order to clarify the fuzzy borders between EFL and ESL and, on the whole, second language acquisition (SLA) and learning a foreign language (FLA).

APPENDIX A

Detrended Normal P-P Plot of the sum of the corrections [SOO] and [SOS] or Sum12, demonstrating the non-normal distribution of the sum of these two correction forms, necessitating employing a Wilcoxon test.



Detrended Normal P-P Plot of the sum of the corrections [OSS] and [OSO] or Sum12, demonstrating the non-normal distribution of the sum of these two correction forms, necessitating employing a Wilcoxon test.



APPENDIX B

Stimulus sentences used in the interview with the subjects of the study

1. The drivers drives the taxis.
2. The students studies the book.
3. The chefs cook the food.
4. The engineers repair the cars.
5. The salesperson sells the house.
6. The officer wears the uniform.
7. The dog watch the yard.
8. The animal eat the orange.
9. The dogs eat the apples.
10. The horses drinks the water.
11. The doctors read the book.
12. The professors write the dictionaries.
13. The waiter cleans the tables.

14. The donkey eats the apple.
15. The girl buy the book.
16. The boy hit the door.
17. The nurses serves the hospitals.
18. The players kicks the ball.
19. The boys smoke the cigars.
20. The musicians love the pianos.
21. The camel gets the stone.
22. The teacher ride the motorcycle.
23. The customer buys the orange.
24. The girl steals the bicycles.

APPENDIX C

The vocabulary pool used to make the stimulus sentences.

Part A, Animate Nouns to be used in Np1:

Salesperson, waiter, girl, officer, donkey, camel, dog, lawyer, teacher, animal, boy, customer, driver, dog, nurse, student, horse, player, pilot, doctor, chef, father, mother, engineer, professor, musician, steward, flight attendant, soldier.

Part B, Inanimate Nouns to be used in Np2:

Taxi, apple, hospital, book, water, ball, cigar, ocean, sea, food, river, car, dictionary, piano, house, table, bicycle, uniform, apple, stone, yard, book, motorcycle, wood, door, orange, tomato, phone, telephone, bag, pen, pencil, rope, milk,

Part C, Verbs to be used in Vp:

Sell, clean, steal, wear, eat, get, watch, read, ride, cut, hit, buy, drive, serve, study, drink, kick, smoke, visit, cook, love, repair, write, love, see, touch, punch, smell.

References

- Andersen, R.W. (1978). Implicational model for second language research. *Language Learning*, 28, 221-282.
- Bailey, N., Madden, C., & Krashen, S.D. (1974). IS there a natural sequence in adult language learning? *Language Learning*, 21, 235-243.
- Birdsong, D. (1992). Ultimate attainment in second language acquisition. *Language*, 68, 706-55.
- Brown, D.H. (1973). Affective variables in second language acquisition. *Language Learning* 23, 231-244.
- Brown, H.D. (2000). *Principles of language learning and teaching*. San Francisco: Addison Wesley Longman.
- Brown, R. (1973). *A first language*. Cambridge MA: Harvard University Press.
- Chastain, K. (1988). *Developing second language skills*. Orlando, FL.: Harcourt Brace Jovanovich.
- Cook, V. (1991). *Second language learning and language teaching*. London: Edward Arnold.
- De Villiers, J. & de Villiers, P. (1973). A cross-sectional study of the acquisition of grammatical morphemes in child speech. *Journal of Psycholinguistic Research*, 2, 267-278.
- Dulay, H. & Burt, M. (1972). Goofing: An indicator of children's second language learning strategies. *Language Learning*, 22, 235-252.
- Dulay, H. & Burt, M. (1974). Natural sequence in child language acquisition. *Language Learning* 24, 37-53.
- Dulay, H. & Burt, M. (1976). Creative construction in second language learning and teaching. *Language Learning, Special Issue Number 4*, 65-79.
- Fathman, A. (1976). Variables affecting the successful learning of English as a second language. *TESOL Quarterly*, 10, 433-441.
- Heilenman, L.K. & McDonald, J.L. (1993). Processing strategies in L2 learners of French: The role of transfer. *Language Learning*, 43(4), 507-557.

- Krashen, S.D. (1980). The theoretical and practical relevance of simple codes in second language acquisition. In Scarcella, R. & Krashen, S.D. (Eds.), *Research in second language acquisition* (pp. 7-18). Rowley, Ma.: Newbury House.
- Krashen, S.D. (1982). *Principles and practice in second language learning and acquisition*. Oxford: Pergamon.
- Krashen, S.D. (1987). *Principles and practice in second language acquisition*. California: Prentice-Hall International (UK).
- Krashen, S.D. (1988). *Second language acquisition and second language learning*. California: Prentice- Hall International (UK).
- Lenneberg, E. (1967). *Biological foundations of language*. New York: Wiley.
- MacWhinney, B. (1978). *The acquisition of morphophonology*. *Monographs of the Society for Research in Child Development*, 43 (serial No.174).
- MacWhinney, B. & Bates, E. (1984). Cue validity and sentence interpretation in English, German, and Italian. *Journal of Verbal Learning and Verbal Behavior*, 23, 127-150
- MacWhinney, B. (1989). The Competition Model. In B. Macwhinney (Ed.), *Mechanisms of language acquisition*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- McDonald, J.L. (1984). *Semantic and syntactic processing cues used by first and second language learners of English, Dutch, and German*. Unpublished doctoral dissertation, Carnegie-Mellon University, Pittsburgh PA.
- McLaughlin, B. (1987). *Theories of second language learning*. Chicago III: The University of Chicago Press.
- Moussavi, S.A. (1999). *A dictionary of testing*. Tehran: Rahnama publication.
- Richards, J.C. & Schmidt, R. (2002). *Longman dictionary of language teaching & applied linguistics*. Essex: Pearson Education Limited.
- Scovel, T. (1982). Questions concerning the application of neurolinguistic research to second language learning/teaching. *TESOL Quarterly*, 16, 323-331.
- Sepassi, F. (2002). *Intelligence-related constrains on information processing to serve as a platform for the enhancement of the descriptive adequacy of the Competition Model*. Unpublished doctoral dissertation. Shiraz University, Iran.



**Interlanguage Requests:
A Cross-Cultural Study of English and Chinese**

Shu-Chu Chen
Yunlin University of Science and Technology, Taiwan

Shu-Hui Eileen Chen
National Taipei University of Education, Taiwan

Bio Data:

Shu-Chu Chen is a lecturer at Yunlin University of Science and Technology in Taiwan. She teaches freshman English, reading, listening, Introduction to English Linguistics, and English Phonetics. She is also a Ph.D. candidate in the TESOL program at National Cheng-Chi University in Taiwan. Her research interests include L2 reading strategies, speech acts, and interlanguage pragmatics.

Dr. Shu-hui Eileen Chen received her Ph.D. degree in linguistics from the University of Hawaii at Manoa, with specialization in language acquisition, pragmatics, and psycholinguistics. She is currently an associate professor at the Graduate School of Children's English Education, National Taipei University of Education in Taiwan. She teaches English Linguistics, Pragmatics & English Teaching, Language Acquisition, and Psycholinguistics at the undergraduate and graduate levels. Her research interests focus on sentence processing strategies in L1 and L2, interlanguage pragmatics, first and second language acquisition, and English teaching.

Abstract

This experimental study aims to explore the performance of requestive speech acts and the effect of social status on Taiwanese EFL learners and American native English speakers. It was carried out through the use of production tasks in which subjects were asked to write down their responses based on three situations embedded with different degrees of social status between speakers and addressees. Fourteen native English speakers and fifty Taiwanese EFL learners participated in this study. Conducted within the framework of the Cross-Cultural Speech Act Realization Project (CCSARP) (Blum-Kulka, House, & Kasper, 1989), the researchers combined nine substrategies into three (direct, conventionally indirect, and hints). The results showed that the conventionally indirect strategy was the most preferred choice for both groups, which supports the universal claim of the conventional use of the indirect strategy found in the literature. In terms of the influence of social status, the analysis of the distribution of the main request strategy types in three situations reveals that conventional indirectness is clearly the preferred strategy type for the situation in which both interlocutors have equal social status, and to a lesser extent, in a request situation when the speaker's social status is inferior to the hearer's. However, in the *professor* request situation, in which the speaker's social status is superior to the hearer's,

the use of impositives dominate. In view of the findings, teaching implications were suggested to help EFL learners develop pragmatic awareness of different request strategies and to enhance their sensitivity to the appropriateness of request behaviors in different social situations.

Key words: request speech act; conventionally indirect request; social status

Introduction

Since recent research and studies have shifted their attention from grammatical to communicative competence in language learning, an extensive literature on communication competence as well as a growing number of cross-cultural speech act studies performed by native and nonnative speakers have been investigated. These studies include how speakers use and understand speech acts and how speakers interpret and use utterances depending on contexts. Researchers have investigated nonnative speakers' (NNS) pragmalinguistic and politeness-related behaviors by contrasting native speakers' (NS) and nonnative speakers' (NNS) discourse, including expressions of gratitude (Eisenstein & Bodman, 1986), apologies (Cohen & Olshtain, 1981), complaints (House & Kasper, 1981), refusals (Beebe & Cummings, 1985), and requests (Blum-Kulka, 1982). These studies all indicate that learning an L2 involves not only acquiring new vocabulary and rules of grammar and pronunciation (i.e. grammatical knowledge), but also the knowledge and ability to use these linguistic resources in ways that are appropriate to a particular social context. In other words, the successful planning and production of speech act utterances of learners depend on certain sociocultural and sociolinguistic abilities. If EFL learners do not acquire these two abilities well and transfer their own sociolinguistic rules into the second language interaction, they might produce pragmatically inappropriate utterances and thus result in pragmatic failure (Thomas, 1983).

Although the importance of teaching sociocultural and sociolinguistic abilities is fully recognized, most textbooks and curriculum materials designed to teach spoken languages to L2 learners have shown little or no effort to provide natural, pragmatically appropriate conversation models for learners and often fail to give a representation of the target language. Therefore, there is an urgent need to promote and develop the pragmatic awareness of language learners and apply the implications of interlanguage (IL) pragmatics research into classroom practice (Wolfson, 1989).

In light of the scarcity of this type of research, the present study aims to provide further insight into the sociopragmatic rules of speaking in the target language. The purpose of this study is threefold. First, it attempts to examine the interlanguage request behaviors performed by fifty Taiwanese EFL learners and fourteen American native English speakers

to see their strategy use as compared with the finding in the Cross-Cultural Speech Act Realization Project (CCSARP) (Blum-Kulka, House, & Kasper, 1989). Secondly, to what extent a social parameter (i.e. social status) would affect EFL learners' choice of strategy for both groups will be investigated. Finally, in light of the results of the study, the implications for future research in acquisition and teaching in L2 are suggested.

Definition of Terms

A request sequence may include: alerters, such as address terms ("*Mary*"), proposed supported moves ("*I missed class yesterday*"), head acts ("*Could I borrow your notes?*"), downgraders ("*Do you think*") or upgraders and supportive moves ("*I promise to return them by tomorrow.*") For this study, only the strategy type in the head act will be investigated.

The Cross-Cultural Speech Act Realization Project (CCSARP) scheme classified requests on a nine-point scale of mutually exclusive categories, which have been empirically shown to be valid across several languages (Blum-Kulka, House & Kasper, 1989). These strategies can be combined into three major categories of directness (see Table 1). The direct strategy (the impositive) is the most direct explicit level, syntactically marked by the use of an imperative that directly names the request act. Strategies such as the *mood derivable* (01, e.g. "*Clean up the kitchen!*"), *performative* (02, e.g. "I am asking/requesting you to clean up the kitchen"), *hedged performative* (03, e.g. "*I'd like to ask you to clean up the kitchen*"), *obligation statements* (04, e.g. "*You should /have to clean up the kitchen*"), and *want statement* (05, e.g. "*I really wish you'd stop bothering me*") are in this category. The conventionally indirect category (CID) includes *suggestory formula* (06, e.g. "*How about cleaning up the kitchen?*"), and *query preparatory* (07, e.g. "*Can/Could you/we clean up the kitchen?*"). The nonconventionally indirect category (NCID) covers the last two strategies: *strong hint* (08, e.g. "*You have left the kitchen in a mess*"), *mild hint* (09, "*You've been busy here, haven't you?*")

Table 1 Categories of Request Strategies and Examples

Category	Strategies	Examples
Direct (D)	01.Mood derivable	01. <i>Clean up the kitchen!</i>
	02.Explicit performative	02. I am <i>asking/requesting</i> you to clean up the kitchen.
	03.Hedged performative	03. I'd <i>like to</i> ask you to clean up the kitchen
	04.Locution derivable	04.You should /have to clean up the kitchen
	05.Want statement	05. <i>I really wish</i> you'd stop bothering me
Conventionally Indirect (CID)	06.Suggestory formula	06. <i>How about</i> cleaning up the kitchen?
	07.Query preparatory	07. Can/Could you/we clean up the kitchen?
Nonconventionally Indirect (NCID)	08.Strong hint	08. You have left the kitchen in mess
	09.Mild hint	09. You've been busy here, haven't you?

Literature Review

Speech Act Theories

Since Hymes (1971) introduced the notion of communicative competence, including both the speaker's knowledge of the linguistic rules as well as the sociocultural rules for appropriate use, there has been an increasing interest in empirical research in the area and in practical applications of speech act studies. These cross-cultural speech act studies have given us a better understanding of what a speaker needs to know in order to perform effectively and appropriately in communication, and the results can let learners be more aware of the interplay of situational, sociolinguistic, and linguistic types of knowledge.

Working under the idea that language is communication, L2 researchers have analyzed the concept of speech act proposed by Austin (1962) and Searle (1976) and applied it to the study of language use. According to Austin (1962), many speech acts in English are closely related to the performative verbs that carry the semantic meaning in the speech acts. These verbs name the acts which are being performed. However, Searle has pointed out that the same speech function can be realized through the use of different verbs which differ in their semantic meanings. For instance, a request speech act can be performed by means of a command through the use of "close" (e.g. "Close the window") or a more indirect request (e.g. "It is cold here.") Moreover, as Searle (1975) points out, speech acts can be realized

indirectly by performing another one, and thus one form will have different functions based on contexts. For instance, an utterance such as “It is cold here” could be interpreted to imply a request to close the window, a question for inquiring about any heating equipment available, a complaint, or just a factual statement.

Therefore, for a speech act to be carried out satisfactorily, both the speaker and the addressee need to understand that there is no one-to-one relationship between form and function. In addition, they must share the linguistic realizations of the speech act in the language as well as the sociocultural norms reflected by the context. Similarly, to be successful in the production and understanding of speech acts in the target culture, L2 learners also need to learn new speech act categories, new means for speech act realization, new contextual distributions of speech acts (e.g., when to thank whom for what), and their corresponding norms in the target cultures (Kasper, 1989, 42-43).

Studies of Requests

The speech act of requests has been analyzed by researchers both in perception and in production from a crosslinguistic and interlanguage pragmatics perspective. In perception studies of request, Carrell and Konneker (1981) compared L1 American English speakers with ESL learners in a judgment task using requests. An eight-item scale of syntactic/semantic linguistic forms or strategies, excluding lexical features such as “please,” was used. The researchers used a card-sorting task to judge and rank eight politeness forms within a contextualized condition. They found that both native speakers and learners fell into a hierarchy similar to that hypothesized in the literature. ESL learners perceived more level of politeness than native speakers.

Tanaka and Kawade (1982) investigated ten Japanese students of English as a foreign language and ten native English speakers’ perceptions of appropriate politeness strategies in English in social context. A list of strategies was provided, and subjects had to choose the one they perceived as most appropriate in context. The results show that both native English speakers and Japanese English speakers used more polite strategies with increased social distance, and Japanese overall chose fewer polite strategies than the native speakers.

Blum-Kulka and Olshtain (1984) investigated how reaction to native speech act behavior by nonnative speakers may serve as a useful indication of their degree of acculturation to the target speech community. The instrument used was judgment tests which were given to native speakers of Hebrew and L2 learners of Hebrew at various stages of their stay in Israel. The subjects rated each choice on a three-point scale of appropriateness (1 most

appropriate; 2 more or less appropriate; 3 not appropriate) from six choices (two positively oriented, two negatively oriented, one bald on record, and one distractor). The results show that certain norms of appropriateness, such as conventional indirectness, are shared across cultures, while others, such as the use of the subjunctive, are not.

In the production of requests, there are internal modifications, such as *downgraders* or *softeners*. Internal modifications, *downgraders*, or *softeners* are used to mitigate the force of the request, and *upgraders* are used to increase the force. Similarly, external modification devices that appear before or after the head act can also be downgrading and softening or upgrading and thus increasing the force. In addition, speakers' perspectives are analyzed from the hearer's perspective (e.g. *Can you*), the speakers' perspective (e.g. *Can I*), inclusive perspectives (e.g. *Can we*), or impersonal (e.g. *would it*). Speaker-oriented requests are easier for learners because they concentrate on their own needs and wants (Hartford and Bardivi-Harlig, 1996).

Production studies are mostly synchronic studies (Blum-Kulka, 1991; Blum-Kulka & Olshtain, 1984; Faerch and Kasper, 1989; Rose, 1993). Blum-Kulka (1991) has discussed the interlanguage pragmatics of requests from both cross-linguistic and interlanguage studies of learners of Hebrew. In a study of request realizations in Hebrew, Blum-Kulka (1982) found that nonnative speakers used the same range of strategies as that of the native speakers. However, nonnatives' strategy choice differed in contextual distribution, and they preferred fewer direct requestives compared to that of the natives.

Using the same Discourse Completion Questionnaire, Faerch and Kasper (1989) examined the request strategies used by nonnatives with the same L1 (Danish) in two different L2s (English and German). The studies demonstrated the nonnatives' contextual sensitivity to choice of directness levels, which in most cases was consistent with native speaker subjects' preferences. Differences occurred in the nonnative's selection of syntactic and lexical downgraders, which were used with less frequency and variety than native speakers', and were partially influenced by L1 transfer. The studies further supported Blum-Kulka and Olshtain's (1986) findings that all nonnative groups displayed more supportive moves than the target language native speakers.

Kasper (1981) investigated the performance of five initiating speech acts (request, suggestions, offers, invitations, and complaints) and six responding speech acts (acceptance, promises, objections, rejections, apologies, and thanks) in audio taped role plays, carried out by 48 dyads of German learners of English interacting with English native speakers, and by the same number of L1 and L2 controls. The nonnative speakers

were successful in reaching communicative goals yet mostly unsuccessful in reaching interpersonal goals. The fact that the nonnatives also tended not to mitigate face-supportive acts led to the hypothesis that foreign language teaching largely ignores the interpersonal aspects of communication.

Social Parameters

To sum up, from the review of the literature related to requests so far, we find that the degree to which a request is regarded as socially appropriate in a given culture in a specific situation lies in several factors. Factors found to influence the production of L2 learners' requests include status of the hearer, familiarity, age, the sex of the participants, and social power. Blum-Kulka (1991) has stated that the source of a request is the requestive goal, which speakers strive to achieve with effectiveness and politeness. In order to achieve this goal, speakers match pragmalinguistic knowledge with an evaluation of the most relevant situational factors, which include context-external and context-internal factors. The former include the degree of social power and familiarity of the medium of communication. The latter covers factors such as the participants' rights and obligations, likelihood of hearer's compliance, and difficulty of carrying out the request (Blum-Kulka and House, 1989).

Blum-Kulka and House (1989) argue that the realization of requests in an L2 is achieved with a pragmatic knowledge base supported by the choice of strategies used in each situation, a choice of structure which varies by situation, a degree of sensitivity to the target language's specific pragmalinguistic constraints, and a degree of accommodation to sociocultural norms of the target culture.

Other researchers such as Rintell (1981) have examined how adult learners perform requests. Factors for analysis include the relationship between the speaker and hearer, especially the variation of the level of deference conveyed by these speakers as a function of the age and sex of the addressee. No effect for sex in the English request was found. However, in Spanish, females were more deferential than men in addressing males, and men were more deferential than women in addressing females. When the addressee was younger, younger male speakers were more deferential than older male speakers, whereas older female speakers were more deferential than younger ones. In general the productions of L2 learners' requests were constrained by contextual variables: the addressee's age and sex affected the subjects' perception of deference in requests.

Although many different social parameters have been examined, these variables as described above appear to provide the most productive descriptors of language context in

the success of speech acts. In their extensive analysis of the concept, which they label “face threatening acts,” Brown and Levinson (1987) identify three independent and culturally-sensitive variables that subsume all the others. Absolute ranking (R) of impositions in the culture refers to the potential expenditure of goods and service by the hearer. Social distance (D) refers to the distance between the speaker and the hearer. This represents the degree of familiarity and solidarity they share. Relative power (P) refers to the power of the speaker with respect to the hearer. This reflects the degree to which the speaker can impose his/her will on the hearer. Thus R varies depending on the particular speech act while P and D are constant across all speech acts for any two interlocutors (Blum-Kulka, House, & Kasper, 1989). In other words, power relationships constrain communicative action universally, but actors’ assessment of the weight and values of these universal context factors varies substantively cross-culturally (Blum-Kulka, House, & Kasper, 1989).

For instance, the discussion by Beebe and Takahashi (1989) of how disagreement is expressed is important to understand how refusal, requests, and apologies might be carried out differentially depending upon changes in relative power (P), social distance (D), and ranking (R). They found that Japanese were more likely to be critical of plans proposed by a person of lower status than were Americans. Likewise, the research by Beebe and Takahashi (1989) puts into perspective the use of formulaic expressions in both cultures. They found that, contrary to the stereotypes, the responses by American sounded indirect while the Japanese sounded more direct and critical with both higher-lower and lower-higher status relationships. The above studies of speech act realization indicate that utterances show sensitivity to status.

Methodology

Research Questions

This experimental study aims to explore the use of requestive strategies and the effect of a social variable (i.e. social status) on Taiwanese EFL learners and American native English speakers. The research questions are as followed:

1. What are the similarities/differences in the use of request strategies of Taiwanese EFL learners compared with American native English speakers?
2. To what extent would social parameters (i.e. social status) affect EFL learners’ choice of strategy compared with American native English speakers?

Subjects

Fifty Taiwanese EFL learners (freshmen) were chosen for this study. In addition, fourteen American native speakers joined this study, and their speech performance will be used as reference points for comparison.

Instrument: The Discourse-Completion Test (DCT)

The instrument used was a discourse-completion test (DCT), which consists of scripted dialogues that represent socially differentiated situations (see Appendix for the description of request situations). Each dialogue is preceded by a short description of the situation, specifying the setting and the social status relative to each other followed by an incomplete dialogue. Respondents were asked to complete the dialogue, thereby providing the speech act targeted. The questionnaire contains three situations, which are related to everyday occurrences of the type expected to be familiar to the student population. The three situations are described as follows:

- S1 (note) A student (the speaker) asks another student (the hearer) to lend her some lecture notes.
- S2 (extension) A student (the speaker) asks a teacher (the hearer) for an extension on a paper.
- S3 (professor) A professor (the speaker) asks a student (the hearer) to turn in his paper earlier than scheduled.

The degree to which a request is regarded as socially appropriate in a given culture lies in several factors. Among them, the interlocutor's relative social status leads to variations in the actualizations of the requestive speech acts. More importantly, the relative weight placed on each type of request strategy varies from culture to culture due to cross-cultural variations (Blum-Kulka, 1987). That is the reason the effect of social status was investigated in a Chinese EFL context.

The social variable embedded for investigation is participants' role relationship, i.e. their relative social status. In the *note* situation (S1), the speaker and hearer have the same social status. In the *extension* situation (S2), the speaker's social status is inferior to the hearer's while in the *professor* situation (S3), the speaker's social status is superior to the hearer's.

Results

Distribution of strategy type

ANOVA were conducted on the data of total frequency occurrences of strategy use between Taiwanese EFL learners and American native speakers. Results in Table 2 show that the

conventionally indirect strategy is the most favored choice for Taiwanese EFL learners and American native speakers, ranging from 71% to 69%. The second preferred strategy is the direct strategy (i.e. imposives), with the percentages of 28% and 24 % respectively. From the data elicited in different languages juxtaposed in the results with the CCSARP's, we can see that the standard, conventionally indirect forms are universally used across languages. It confirms that conventionally indirect strategies are widely used across cultures.

Categories	Strategies	CE N=152	American English (L1) N=42	Australian English (L1) N=1115	French (L1) N=152	Hebrew (L1) N=812	Argentina Spanish (L1) N=197
Direct	01.Mood derivable	42(28%)	10(24%)	109(9.8%)	152(24%)	271(33.4%)	78(39.6%)
	02.Explicit performative						
	03.Hedged performative						
	04.Locution derivable						
	05.Want statement						
Convent. Indirect	06.Suggestory formula	109 (71%)	29(69%)	919(82.4%)	437(68.9%)	476(58.6%)	115(58.4%)
	07.Query preparatory						
Nonconvent. Indirect	08.Strong hint	1(1%)	3(7%)	87(7.8%)	45(7.1%)	65(8%)	4(2%)
	09.Mild hint						

Table 2 Distribution of Main Strategy Types in Different Languages

N=number of utterances CE-Chinese learners using English

Table 3 Distribution of Strategies in Both Groups

Strategy	CE N (%)		AE N (%)	
	rank order	N (%)	rank order	N (%)
01 Mood derivable	2	17 (11%)	4	2 (5%)
02Explicit performative	5	2 (2%)		0
04 Locution derivable	4	6 (4%)	3	3 (7%)

05 Want statement	3	17 (11%)	2	5 (12%)
07 Query preparatory	1	109 (71%)	1	29 (69%)
08 Strong hint	6	1 (1%)	5	1 (2%)
09 Mild hint		0	4	2 (5%)
Total		152 (100%)		42 (100%)

CE-Chinese learners using English

If we excluded the most preferred use of conventionally indirect strategy, we can find the rank ordered distribution for the rest of the strategy use between Taiwanese EFL learners and American native speakers listed in Table 3. The distribution of the rest of the substrategies varies to some degree. For example, the favored strategy rank order for Taiwanese learners is *mood derivable* (“*clean up the mess*”), *want statement* (“*I really wish you would stop bothering me*”), and *obligation statements* (“*you should clean up this mess.*”) Among American learners, on the other hand, *want statements*, the second choice, is followed by *obligation statements*, and lastly by the most direct one (*mood derivable*). On the whole, Taiwanese EFL learners seem to prefer the substrategies of impositives with stronger illocutionary force while Americans tend to choose the ones with milder illocutionary intent. Thus, in term of the use of impositives, Taiwanese EFL learners are more direct in making requests than Americans.

Influence of social parameter on strategy choice

The second question aims to investigate to what extent members of Taiwan and American cultures vary their requestive behavior according to the social situation. Table 4 shows that higher levels of directness are found in *professor* situations, in which the speaker’s social status is superior to the hearer’s.

Table 4 Distribution of Strategy in Situations for Both Groups

Situations	S1 (note)		S2 (extension)		S3 (professor)	
	CE	AE	CE	AE	CE	AE
Direct	3 (5.8%)	1 (7.1%)	7 (14%)	2 (14.3%)	32 (64%)	7 (50%)
Convent.Indirect	49 (94.2%)	13 (92.9%)	42 (84%)	11 (78.6%)	18 (36%)	5 (35.7%)
Nonconvent.	0	0	1 (2%)	1 (7.1%)	0	2 (14.3%)
Indirect						
Total	52 (100%)	14 (100%)	50 (100%)	14 (100%)	50 (100%)	14 (100%)

CE-Chinese learners using English, AE-native speakers of American English

Impositives

In Figure 1, there is a steady rise in the proportion of impositives from the *note* request, through the *extension* requests, and peaking in the *professor* requests. For the two languages, the lowest occurrence of impositives is found in the request for *notes* (5.8%-7.1%), and the highest percentage of impositives is shown in the request for handing in papers earlier by professors (64%--50%).

The degree of cultural variation in the use of impositives varied with the situation. It is relatively low for the *notes* request and relatively high for the *professor* requests. While in the *note* requests the overall differences between languages does not exceed 8%, in the *professor* requests the proportion of impositives ranges from 64% in Taiwanese EFL learners to 50% in American.

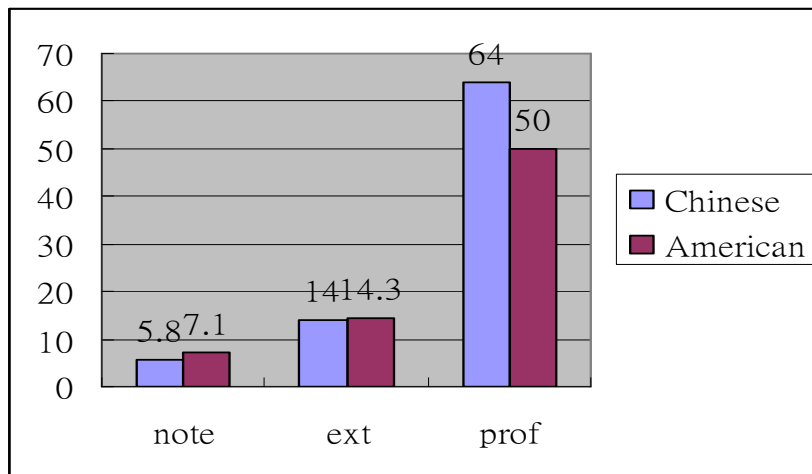


Figure 1 Percentage of Impositives in situations

Conventional Indirectness

The use of conventional indirectness follows a reverse trend from that of impositives. The conventionally indirect strategy is the most frequently used main strategy type in the two groups examined. As Figure 2 shows, a higher percentage of the strategy use is in the case of *notes* (94.2%--92.9%); while a lower percentage of conventional indirectness is found in the *professor* requests, ranging from 36% in Taiwanese EFL learners to 35.7% in American.

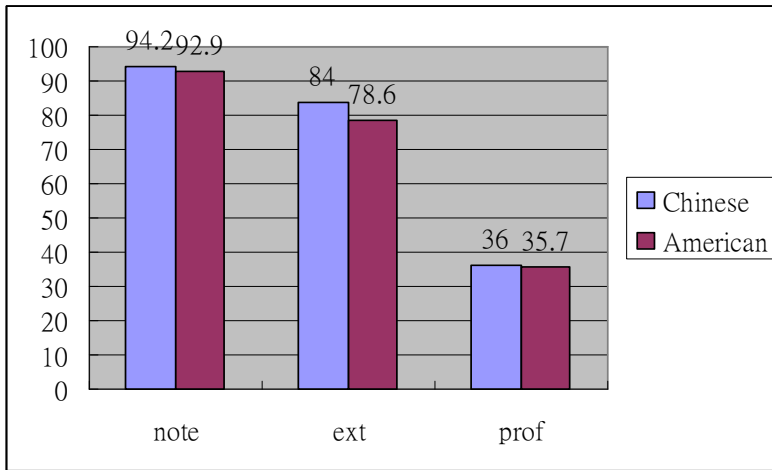


Figure 2 Percentage of conventional indirectness in situations

Nonconventional Indirectness

The use of hints (nonconventional indirectness) varied across situations less than the two other main strategy types. Figure 3 shows that the proportion of hints is relatively low in the two groups, ranging from 0% to 14.3%. The lowest percentage of nonconventional indirectness is found in the *notes* (0%--0%). The highest degree of agreement for the groups in the use of hints is shown in the *notes* requests (0%--to 0%), to a lesser extent in the *extension* requests, and the highest disagreement in the *professor* situation. The results suggest that the use of hints follows a trend culturally, which is different from the trends for the two other main strategy types. The results depicted in the above table and figures show that social situations, as predicted by social psychologists and sociolinguistics (Ervin-Tripp, 1976; Brown and Fraser, 1979), play a dominant role in determining the choice of linguistic forms.

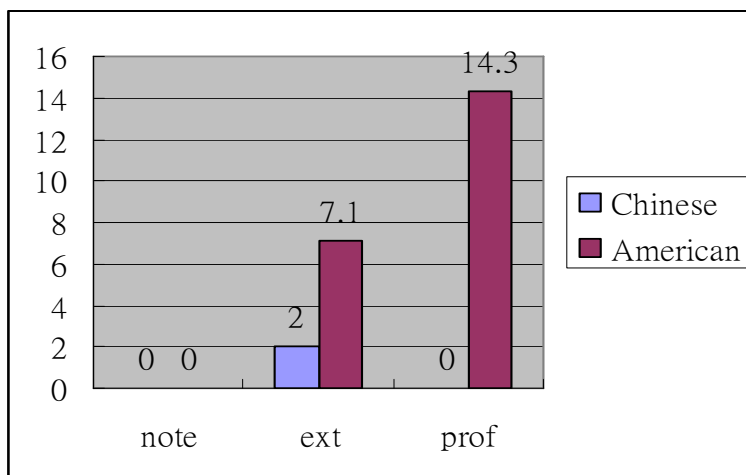


Figure 3 Percentage of hints in situations

Discussion and Conclusion

This study aims to explore the use of requestive strategies and the effect of a social variable (i.e. social status) on Taiwanese EFL learners and American native speakers. Results show that the conventionally indirect strategy is the most preferred choice for both groups, which supports the universal claim of the conventional use of the indirect strategy found in the literature.

In terms of the influence of the social variable (i.e. social status), the analysis of the distribution of the main request strategy types in three situations reveals that the conventionally indirect is clearly the preferred strategy type for the *note* situation in which the interlocutors have equal social status, and to a lesser extent, the *extension* requests, in which the speaker's social status is inferior to the hearer's. Finally, in the *professor* requests, impositives dominate. The dominance of indirectness in two out of three request situations could be partly explained by *context external factors* and partly be explained by *context internal* features of the situations as proposed by Brown and Fraser (1979).

According to Blum-Kulka et al.(1989), the level of directness of a request has strong correlations with the expectations of rights and obligations between hearers and speakers: the greater the right of the speaker to ask and the greater the obligation of the hearer to comply, the less the motivation for the use of indirectness. Therefore we can find that this description of right and obligation fits well in the situation of *professor*. The professor is given a right in requesting students to hand in their papers earlier, and the hearers (students) have obligations to comply. Therefore, face-saving strategies are not required, so levels of indirectness are the highest in the remaining two situations.

The notion of relative dominance affecting indirectness parallels the effect of obligation: the greater the speaker's dominance relative to the addressee, the lower the use of indirectness expected. Similar to Blum-Kulka's results, in the *professor* request, the speaker's (i.e. professor's) social status is higher than the addressee's (i.e. student's); therefore they have a right to make a request of the hearer. So the choice of strategy tends to move toward directness. On the other hand, in the *note* and *extension* situations, the speaker's social status is lower or equal to the addressee's, and the requests in the two situations in their nature are basically asking for a favor from the addressee. Therefore choosing an appropriate strategy can both save face for all parties and leaves the addressees a space to comply.

According to context-internal explanation proposed by Merrit (1976), a proper request is often preceded by prerequisites (e.g. *Are you free now?*), which can be used to check

possibility of compliance and to check the need to do an explicit request. Because the conventionally indirect strategy can serve as a prerequisite and a nonadmitted request proper, the speaker can save face in case the hearer refuses the request (Blum-Kulka, 1991). A similar line of explanation can be found in Clark (1979). Clark mentions that the literal meaning of conventionally indirect strategies allow speakers more openness to back out of admitting a requestive intent, and hearers avoid a requestive interpretation (Blum-Kulka, 1991:132). Therefore in all three cases, the conventionally indirect strategy is the most preferred one.

To sum up the findings so far, the results of this study on students' development of communicative competence support the universal claim of the use of indirectness while in part show cross-cultural variations influenced by the factor of social status. This finding may serve as a reference for English teachers in teaching request strategies to EFL learners. Some pedagogical implications as well as classroom activities are suggested in the following.

Pedagogical Implications and Limitations

Researchers have investigated teaching with respect to pragmatics (Bardovi-Harlig & Hartford, 1996; Kasper & Rose, 1999). One of the major findings of the research is if teachers in the foreign language classroom provide L2 learners with input, learners can develop appropriate request behaviors similar to those of native speakers. In the literature, two kinds of learning opportunities are mentioned that teachers can use to raise learner's consciousness: input and practice.

Many kinds of input can be used for foreign language classrooms, such as film (Rose, 1993), exposure to natural conversations (Bardovi-Harlig & Hartford, 1996), students' observation of native speakers in action (Bardovi-Harlig & Hartford, 1996), and comparison of dialogues and gathering of data outside of classroom from native speakers in the community (Bardovi-Harlig & Hartford, 1996).

A number of activities and learning techniques are suggested for EFL learners to practice as well (Clennell, 1999). First, teachers should develop students' ability to analyze language use in a conscious manner. For instance, a request can be made by various linguistic forms--imperative, yes-no questions, with modals, open-ended hints, etc. According to the results found in this experiment, it would be easier for the teachers to understand what status their pupils are. Secondly, using a model dialogue is helpful by presenting students with examples of the speech act in use. Ask students to listen to the

dialogues first, and then have them guess if the people speaking know each other, if they are of the same age, and whether they are requesting in formal or informal ways. These considerations, which can be discussed in groups, help students become sensitive to the social and pragmatic factors that affect speech acts. Next, role-play activities suitable for practicing the use of speech acts. Supplying ample information about the interlocutors and about the situation is important to learners. The students are directed to think of a possible strategy for requesting based on the hearer's age, status, familiarity, etc. and then act out. After the role-play, feedback and discussion are useful activities for speech act teaching since students need to talk about their perception, expectations, and awareness of similarities and differences between speech act behavior in the target language and in their first culture. Last, interviews with native speakers can also enhance students' socio-pragmatic level of language (Clennell, 1999). The students can choose whether they wish to proceed with the interviews alone or in pairs. They are free to decide on the situations/questions they wish to ask in a certain speech act (e.g. request), and the wide range of the responses they receive is unexpected and interesting for all involved. The teachers can best assist preparations for the interview by drawing attention to occasions where students may face unexpected topic switches or fail to understand the interlocutor's meaning.

This is a preliminary exploration of the request behaviors between Taiwanese EFL learners and Americans. There are several limitations of this study. First of all, the research designed utilized about 14 native speaker subjects. However, Kasper and Dahl (1991) have indicted that thirty or more subjects are more desirable for research purposes. Therefore it is recommended that further research design should increase the numbers of native speaker subjects and situations in the instrument. In addition, using a multiple-task approach to gather various types of data can lead to firmer conclusions about interlanguage speech act performance. Thus, a replication study can be designed to include a number of tasks to investigate different aspects of pragmatic competence such as comprehension and production. Lastly, the DCT employed in the study (see Appendix) required subjects to request in the situations regardless of whether they would actually do so in real interactions or not. Some subjects indicated that they would not request in some of the situations. Therefore respondent should not be constrained by the instrument but offered an alternative situation or accept the one offered with respect to a particular context.

References

- Austin, J. L. (1962). *How to do things with words*. Oxford: Clarendon Press.
- Bardovi-Harlig, K. & Hartford, B. (1996). Input in an institutional setting. *Studies in Second Language Acquisition*, 18, 171-188.
- Beebe, L. M., & Cummings, M.C. (1985). Speech act performance: A function of the data collection procedure? *The Proceedings of the Sixth Annual TESOL and Sociolinguistics Colloquium at the International TESOL Convention* New York.
- Beebe L.M. & Takahashi.T. (1989). Do you have a bag? Social status and patterned variation in second language acquisition. In S. M. Gass, C. Madden, D.Preston, & L. Selinker (Eds.). *Variation in second language acquisition: Discourse and pragmatics* (pp.103-128). Clevedon, England: Multilingual Matters.
- Blum-Kulka, S. (1982). Learning how to say what you mean in a second language: A study of the speech act performance of learners of Hebrew as a second language. *Applied Linguistics*, 3, 29-59.
- Blum-Kulka, S. (1987). Indirectness and politeness in requests: Same or different? *Journal of Pragmatics*, 11, 131-146.
- Blum-Kulka, S. (1991). Interlanguage pragmatics: The case of requests. In R. Phillipson, E. Kellerman, L. Salinker, M. Sharwood Smith, & M. Swain (Eds.). *Foreign/second language pedagogy research* (pp. 255-272). Clevedon & Philadelphia: Multilingual Matters.
- Blum-Kulka, S., House, J., & Kasper, G. (1989). *Cross-cultural pragmatics: Requests and apologies*. Norwood, NJ: Ablex.
- Blum-Kulka, S., & E. Olshtain (1984). Requests and apologies: A cross cultural study of speech act realization patterns. *Applied Linguistics*, 5(3), 196-213.
- Brown, P., & Fraser, C. (1979). Speech as a marker of situation. In K. Scherer & H. Giles (Eds.), *Social markers in speech* (pp.33-63). Cambridge: Cambridge University Press.
- Brown, P. & Levinson, S. (1987). *Politeness: Some universals in language usage*. Cambridge, MA: Cambridge University Press.
- Carrell, P. & Konneker, B. (1981). Politeness: Comparing native and non-native judgments. *Language Learning*, 31, 17-30.
- Clark, H. (1979). Responding to indirect speech acts. *Cognitive Psychology*, 11, 430-477.
- Clennell, C. (1999). Promoting pragmatic awareness and spoken discourse skills with EAP classes. *ELT Journal*, 53(2), 83-91.
- Cohen, A.D., & Olshtain, E. (1981). Developing a measure of sociolinguistic competence: The case of apology. *Language Learning*, 31, 113-134.

- Eisenstein, M., & Bodman, J.W. (1986). "I very appreciate": Expression of gratitude by native and non-native speakers of American English. *Applied Linguistics*, 5, 167-185.
- Ervin-Tripp, S. (1976). Is Sybil there? The structure of American English directives. *Language in Society*, 5, 5-66.
- Faerch C. & Kasper, G. (1989). Internal and external modification in interlanguage request realization. In S. Blum-Kulka, J. House, & G. Kasper (Eds.). *Cross-cultural pragmatics*. (pp. 221-47). Norwood, NJ: Ablex.
- Hartford, B. & Bardovi-Harlig, K. (1996). At your earliest convenience: A study of written student requests to faculty. In L. Bouton & Y. Kachru (Eds.). *Pragmatics and language learning, monograph*, 7, (pp.55-69). Urbana-Champaign, IL: University of Illinois Division of English as an International Language.
- House, J. & Kasper, G. (1981). Politeness markers in English and German. In F. Coulmas (Ed.), *Conversational routine: Explorations in standardized situations and pre-patterned speech: Vol. 2* (pp.157-186). Mouton: The Hague.
- Hymes, D. (1971). *On communicative competence*. Philadelphia: University of Philadelphia Press.
- Kasper, G. (1981). *Pragmatische Aspekte in der Interimsprache*. [Pragmatic aspects in interlanguage]. Tübingen, Germany: Narr.
- Kasper, G. (1989). Variation in interlanguage speech act realization. In S. Gass, C. Madden, D. Preston & L. Selinker (Eds.), *Variation in second language acquisition*, vol. 1: *Discourse and pragmatics* (pp. 37-58). Clevedon: Multilingual Matters.
- Kasper, G. & Rose, K.R. (1999). Pragmatics and SLA. *Annual Review of Applied Linguistics*, 19, 81-104.
- Kasper, G. & Dahl, M.(1991). Research methods in interlanguage pragmatics. *Studies in Second Language Acquisition*, 13, 215-247.
- Merrit, M. (1976). On questions following questions in service encounters. *Language in Society*, 5(3), 315-357.
- Rintell, E. (1981). Sociolinguistic variation and pragmatic ability: A look at learners. *International Journal of the Sociology of Language*, 27, 11-34.
- Rose, K. R. (1993). Sociolinguistic consciousness-raising through video. *The Language Teacher*, 17, 7-9.
- Searle, L.(1975). Indirect speech acts. In P. Cole & J Morgan (Eds.), *Syntax and semantics. Vol. 3: Speech acts* (pp. 59-82). NY: Academic Press.
- Searle, L. (1976). A classification of illocutionary acts. *Language in Society*, 5, 1-23.

- Tanaka, S. & Kawade, S. (1982). Politeness strategies and second language acquisition. *Studies in Second Language Acquisition*, 5, 18-33.
- Thomas, J. (1983). Cross-cultural pragmatic failure. *Applied Linguistics*, 4, 91-112.
- Wolfson, N. (1989). *Perspectives: Sociolinguistics and TESOL*. Rowley, MA: Newbury House.

Appendix

The following are the three situations used in the questionnaire. After the description of each situation there was a blank for the participants to write what they thought they would say.

Situation 1

You are a college student. You missed one class yesterday. You ask one of your classmates to lend you the lecture notes.

You would say: _____

Situation 2

You are a college student. Your brother had a car accident and you have to go home to take care of him. You ask your professor for an extension on your paper so that you can take care of your little brother.

You would say: _____

Situation 3

You are a professor in a university. Because you have to attend an important conference, you ask your student to give his lecture earlier than scheduled.

You would say: _____



On Correlating Aphasic Errors with Speech Errors in Mandarin*

I-Ping Wan

National Chengchi University and Harvard University

Bio Data:

I-Ping Wan received her Ph.D. in Linguistics from the Department of Linguistics and a Ph.D. certificate from the Center for Cognitive Science, at SUNY-Buffalo, in 1999. She has been teaching at the Graduate Institute of Linguistics, National Chengchi University, Taiwan, since fall 2000. Her recent research has focused on gathering aphasic and speech-error evidence in Mandarin to examine how such findings will be incorporated into the phonological constructs and psycholinguistic models of speech production planning. Some of the related work has been published in *Phonology*, *Journal of East Asian Linguistics*, *Lingua*, and *Journal of Chinese Linguistics*. She is currently a Visiting Scholar in the Department of Linguistics at Harvard University in 2006-2007. Her research areas include phonology, phonetics, psycholinguistics and cognitive science.

Abstract:

The present study shows that the distribution of errors in aphasic speech, despite some minor differences, closely resembles to that of errors made by normal speakers. The most consistent findings in the phonological analyses of aphasic speech are the relative uniformity of error types and error distributions within each aphasic group. Differences between the errors manifest themselves most clearly in the treatment of the hierarchy of the phonological units occurring in errors, the contextual influences, and directionality in relation to the error utterance. These differences show the ways in which the speech production system of aphasic speakers differs from that of normal speakers. Such findings may also be incorporated into the phonological structure and psycholinguistic models of speech production planning.

Keywords: aphasic errors, speech errors, Mandarin, psycholinguistic models

INTRODUCTION

The study of speech errors has long served as a window through which researchers have detected the processes and structures of linguistic performance. During the past decade, research based on speech errors has become an area of major interest in the study of speech production processes (e.g., Fromkin, 1973a; 1980; Cutler, 1982; Stemberger, 1983a; Berg, 1987; Jaeger, 2004). Speech error studies have a long tradition of use for testing or examining the patterns and constraints observed in extensive collections of errors to argue

both for the validity of phonological units as processing units, and for particular phonological theories or cognitive processing models (Fromkin, 1973b; Stemberger, 1983b; 1984; Dell, 1984; Shattuck-Hufnagel & Klatt, 1979; Levelt, 1989; Bock & Levelt, 1994). Similarly, aphasic speech also constitutes an important source of data for testing linguistic representation, and thus the phenomenon of aphasia provides tests of the validity of certain aspects of linguistic theory (e.g., Blumstein, 1973; Schwartz et al., 1994).

Recently, research on speech errors has been published regarding certain specific issues in relation to the representation of Chinese (see Chen, 1993; 1999; Shen, 1993; Wan, 1997; 1999; 2002a; 2002b; 2006, in press; Wan & Jaeger, 1998; 2003; Yang, 1997). However, so far there is no evidence presenting a descriptive comparison of naturally-occurring speech errors made by both left-brain-damaged and non-brain-damaged speakers of Mandarin. The goal of the present paper is to examine the issue as to whether theoretical linguistic predictions with regard to the order of difficulty and the order of relatedness of phonological elements are supported by evidence gained from the study of the natural phenomenon of aphasia in Mandarin. In particular, there has been little attention paid to systematic errors produced by aphasic speakers that closely resemble the speech errors made by normal speakers. Therefore, the goals of this paper are fourfold: 1) to present data from two empirical and naturally-occurring error corpora (speech errors and aphasic errors), 2) to explore whether there are significant error categories within the phonological patterns of aphasic speech, 3) to see whether the distribution of the errors is generated in a systematic order, and 4) to see whether parallels exist between disordered speech produced by aphasic and normal speakers. Finally, the data presented in this paper will be supported by a psycholinguistic model of speech production planning. Therefore, the following section lists the research questions that have been extensively discussed in relation to the cross-linguistic distribution of speech errors and which in this paper will be discussed by means of focusing on aphasic speech in Mandarin.

(1) Since speech errors can occur at any stage of the speech production planning process, including linguistic levels, such as phonology, morphology, syntax, and semantics, Wan (to appear) has found that the error distributions do not occur randomly in Mandarin speech errors; phonological errors are more common than lexical errors and morphological errors, and the syntactic errors are the least common. Which linguistic units occur the most often in aphasic speech in Mandarin?

(2) In phonological errors, do the errors in the two corpora involve more contextual errors? Studies of normal speech errors have shown that the source segment

influencing the production of the target usually occurs within the context of the utterance (e.g., Nootboom, 1973).

(3) What are the error types of phonological errors in Mandarin aphasic speech? Phonological substitution errors in naturally-occurring speech errors far outnumber any other type of error, i.e., additions or omissions in English, Hindi, Japanese, Spanish, or Turkish speech errors (Wells-Jensen, 1999). Does Mandarin aphasic speech yield the same pattern?

(4) What are the phonological units occurring in aphasic speech in Mandarin? Do consonants occur more often than vowels and other phonological units? Also, are there more VC sequences than CV sequences even though most errors involve single segments in English speech errors (Shattuck-Hufnagel, 1986)?

(5) What is the directionality of the errors occurring in aphasic speech in Mandarin? It is reported that there is a tendency to more phonological anticipations than perseverations and exchanges in English and other Germanic speech errors; however, Gandour (1977) found the opposite pattern occurring in Thai tone errors with more perseverations than anticipations and exchanges.

(6) How do the data in the two error corpora relate to the models of speech production planning? Which model will predict more systematic error patterns?

The paper is organized as follows: section two will overview of Mandarin phonology and a number of relevant research studies with regard to aphasic errors. Section three discusses the methodology for the data collection of aphasic errors and naturally-occurring speech errors. Section four examines the data in order to show the occurrence and distribution of error types in an aphasic error corpus produced by native Mandarin subjects with Broca's, Wernicke's, and mixed aphasia. This will be followed by a comparison of the data in the two error corpora to see whether the nature and the distribution of errors made by normal speakers of Mandarin differ from those made by aphasic speakers. In this section, a substantial number of examples from error corpora are provided to help validate the findings. Section five includes the results and the analyses of the two corpora with reference to mechanisms in language processing. Issues as to whether such lapses provide evidence regarding the cognitive processes involved in speaking will be explored.

OVERVIEW

Description of Mandarin Phones

The subjects of this study are all native speakers of a Taiwanese Mandarin dialect. The main difference among subjects is that some speakers' dialects reflect a general sound

change currently taking place in Taiwan, whereby the retroflex affricates [tʂ, tʂ^h, ʂ] are being lost and replaced by dental affricates [ts, ts^h, s], and whereby the velar nasal following the high front vowel such as [iŋ] is being dropped and replaced by the dental nasal after the high front vowel such as [in]. However, certain speakers in the subject groups continue to distinguish dental from retroflex affricates. The phonetic transcriptions of data in the corpora reflect the actual pronunciation subjects produced during the error utterance. The following consonant phones occur in the dialect of Mandarin under study.

(1) Consonant Phones

	Bilabial	Labio-dental	Dental	Retroflex	Palatal	Velar
Plosive Unaspirated	p		t			k
Plosive Aspirated	p ^h		t ^h			k ^h
Fricative		f	s	ʂ	ç	x
Affricate Unaspirated			ts	tʂ	tç	
Affricate Aspirated			ts ^h	tʂ ^h	tç ^h	
Nasal	m		n			ŋ
Liquid			l			
Glide	w				j ɥ	w

There is a bidirectional contrast of aspiration for the plosives and affricates, and there is a bidirectional contrast of voicing for the retroflex fricatives. The remaining fricatives are voiceless unaspirated. The sonorants are all voiced and the glides are considered to be allophones of vowels.

In the Mandarin dialect studied here there are the following 12 surface vowels.

(2) Vowel Phones

	Front		Central	Back	
	Unround	Round	Unround	Unround	Round
High	i	y	ɨ		u
Mid	e		ə	ɤ	o
Lower-Mid	ɛ				ɔ
Low			a	ɑ	

There has been a longstanding controversy in the technical literature over the number of underlying vowel categories in Mandarin and the relationship of the myriad of surface vowel forms to these phonemic categories (e.g. Chao, 1934; 1968; R. Cheng, 1966; C. Cheng, 1973; Pullyblank, 1983; Lin, 1989; Wu, 1994). The reason for the continuance of this controversy is that most phonetic manifestations of vowels in Mandarin occur in a fairly narrow range of contexts, which suggests that they probably can be reduced to a smaller set of basic vowel categories. Many conflicting hypotheses suggest that there are from four to six vowel categories regarding the underlying vowel system of Mandarin based on the distributional, phonetic, and psycholinguistic facts. (For more discussions on the vowel alternations see R. Cheng, 1966; C. Cheng, 1973; Lin, 1989; Wu, 1994; Wan & Jaeger, 2003).

Mandarin Chinese has four distinctive lexical tones, and a neutral tone. The conventionally accepted inventory of tones in Mandarin is given in (3), in terms of Chao's (1930) tone numbers, with '5', '3' and '1' indicating the speaker's highest, middle, and lowest pitches. Note that these tone numbers are not intended to indicate underlying sequences, but simply to show the pitches involved in the contour tones.

(3) Mandarin Tone Inventory

tone #	Tones	examples	Gloss
1	high (55)	[ma55]	'mother'
2	rising (35)	[ma35]	'hemp'
3	low-falling(21)	[ma21]	'horse'
4	falling (51)	[ma51]	'scold'

Most syllables in Mandarin carry an underlying tone. However, there are a few grammatical particles of no underlying tone, which are always produced with a neutral tone. In addition, some light (CV) syllables with an underlying tone can be produced as unstressed when they are functioning as grammatical particles or as the second element in a reduplicated kinship term. In these cases the syllable duration is shortened, and the syllable is uttered with a 'neutral' tone which is phonetically mid-level; that is, it loses its underlying tone and is pronounced with a mid-level pitch on the surface.

2.2 Previous Findings

Some criteria have been examined in speech errors and aphasic speech based on linguistic units of errors, form types, and directionality. The number of the linguistic units involved in errors is of basic importance, given the fact that speech errors can occur at any stage of linguistic levels such as phonology, morphology, syntax, and semantics. A fundamental distinction in error classification is the contextual–non-contextual influence. Contextual errors occur when there is a source unit influencing a target unit in the utterance context. The most basic categories at the descriptive level are substitutions, additions, and omissions. Contextual errors are further subdivided according to the directionality of influence: when the source occurs after the error the case is classified as anticipatory, whereas when the source occurs before the error the case is classified as perseveration.

Based on the above criteria, a number of researchers (Fromkin, 1973b; Garrett, 1975; 1980; 1984; 1988; Dell, 1984; 1988; 1995; Levelt, 1989; Caplan, 1992) studied naturally-occurring speech errors and support the following findings. First, phonological errors are the most common at any stage of the speech production planning process (Nootboom 1973 for Dutch, Stemberger 1989 for English, Wan to appear for Mandarin). Second, Cohen (1973), Nootboom (1973), Dell & Juliano (1996), and Wan (to appear) all agree that in English, Dutch, and Mandarin, the source segment that influences the production of the target is usually contained within the context of the utterance. Third, cross-linguistic speech errors show a tendency towards more substitutions than additions and omissions (Wells-Jensen, 1999). Fourth, speech errors strongly observe syllable structures in that the replacing and replaced segments in substitution errors are in the same basic category. Consonants replace consonants and vowels replace vowels, and errors involving consonant-vowel substitution are extremely rare (MacKay, 1970; Stemberger, 1983b). In addition, although most errors involve single segments in English and Dutch speech-error corpora, errors involving rhyme, such as VC sequences, are more common than consonant clusters, or CV sequences (Nootboom, 1973; Shattuck-Hufnagel, 1983; Stemberger, 1983a). Fifth, anticipatory errors predominate more than perseverative and exchange errors in English and other Germanic languages (Nootboom, 1973; Stemberger, 1989; Wells-Jensen, 1999), whereas Gandour (1977) found the opposite direction occurred in Thai tone errors with more perseverations than anticipations. Wan (to appear, and in press) found that other than tones, errors involving single or larger segments, such as consonant clusters and rhymes, all show a perseverative bias. Finally, Garrett's (1988) serial model predicts that errors occur at a distinct level of speech production planning, with other levels unaffected. However,

Dell's (1988) parallel model predicts that errors occurring at multiple levels of processing take place simultaneously.

A number of researchers following the similar criteria have worked on aphasic errors by classifying the errors into sub-categories and also examined the constraints upon them (e.g., Blumstein 1973, Schwartz et al. 1994, Berg 2006). Blumstein (1973) provides a thorough investigation of phonological components in aphasic speech in English by examining the speech production deficits of seventeen aphasic patients suffering from Broca's, Wernicke's, and conduction syndromes. She has found that in phonological aphasic errors, substitutions are more common than omissions, which in turn outnumber additions. Generally speaking, she has found that the speech production of the three types of aphasics yields a similar hierarchy although she suggests that individuals described as Broca aphasics may be more likely to produce more phonological errors other than the other two types of aphasics. In terms of directionality, the errors show a bias in which anticipatory errors are more common than perseverative errors.

Schwartz et al. (1994) compared two error corpora containing naturally-occurring speech errors and jargon aphasic speech errors, in order to test the hypothesis as to whether the directionality of the speech and aphasic errors (anticipations vs. perseverations) shows any bias between a more and a less disordered system. They found that aphasic speakers are more likely to produce perseverative errors on initial trials whereas normal speakers and aphasic speakers tend to produce anticipatory errors for both semantic and phonological errors after practiced trials. They further showed that the data from the two error corpora can be better explained by a speech model of spreading activation production among a number of models of the speech production system.

Since naturally-occurring speech errors occur during speech production, they thus can best be explicated in terms of models of speech production planning and execution, that is, with reference to the component or stage of the planning process during which they occur. Most speech production planning models are derivational in the sense that they assume a sequence of stages or components which take input, the performance of some operations on it, and output of the result into the next component, and so derive the final output in incremental stages. This is true to the most thoroughly studied and supported models of speech production planning, for example Fromkin (1973), Garrett (1975, 1980, 1984, 1988), Dell (1984, 1988, 1995), Levelt (1989), and Caplan (1992).

The relevant studies by Fromkin (1973b), Garrett (1988) and many others suggest that the process of speech planning can be viewed as a series of stages, each devoted to a specific

level of linguistic planning. In these models, the planning of a sentence involves various processing components which perform increments of the planning task and the production at specific levels of representation in sequences. A semantic/conceptual representation is assumed to be constructed first, which is then in turn followed by two linguistic representations, one involving syntactic and the other involving phonological information. Finally, the last level of planning is the phonetic representation of the utterance. This *serial* approach predicts that a speech error only occurs at a distinct level of speech production planning, with other levels unaffected. However, other researchers propose *parallel* models of production, where multiple levels of processing take place simultaneously (e.g., Dell 1988). Dell's spreading activation model of speech production is a connection model, which is a model of lexical organization and retrieval. This model contains four levels of nodes including semantic, syntactic, morphological, and phonological levels; words are organized into networks, each node of which connects units based on semantic and phonological relatedness. The activation of a concept activates lexical items sharing semantic features with the thought to be conveyed, including aspects of their grammatical usage and phonological forms, which constitutes the nucleus and the final codas together. As a node at one level is activated, it may activate other nodes at the same level or at other levels. The representations work in parallel, and thus there is a close interaction between semantic and phonological levels. This parallel approach thus predicts that a speech error occurring at one level may activate the processing at a different level.

Therefore, the topic of this paper is to provide a detailed investigation of phonological components in aphasic speech in Mandarin, and to compare these components with data gained from naturally-occurring speech errors in Mandarin in order to observe their relation. Furthermore, it will be examined whether this comparative analysis can adequately provide evidence regarding the cognitive status of phonological processes, which occur during speech production planning and execution.

Methodology and Subjects

The current study is based on data gained from two error corpora in Mandarin. The first corpus contains 1,254 aphasic speech errors collected by two assistants and the author from aphasic speakers of Mandarin between 2002 and the present. The aphasic error data are drawn from interview questions with aphasic patients. The questions were produced during the course of open-ended conversations regarding the patients' illness, work, hobbies, family, friends, weather conditions, etc. The interviewers sometimes showed pictures to the

patients who were requested to describe the pictures or tell a story about them. Each patient was individually tested in a moderately quiet room, and the spontaneous speech interviews lasted for about 30 minutes each. The raw data used in this study was selected from the tape-recorded interviews. For each potential error, a guess was made at the intended target independently by the two assistants and the author. Notes were compared, and inconsistencies resolved by negotiation. If the potential error in the patient's utterance was identified as an error whose target words could clearly be determined by the surrounding context, the error was considered to have been identified. Otherwise, no target was assumed. The error utterances were transcribed using the International Phonetic Alphabet for more precise identification.

This study discusses examples of aphasic errors produced by individuals from the following three diagnostic aphasic groups, Broca's, Wernicke's, and conduction aphasics. Each group is distinguished by clinical characteristics and an accompanying pathology, and arrangements with regard to the grouping were made by the therapists of the Department of Physical Medicine and Rehabilitation, National Taiwan University Hospital. Note that dysarthric speech has been omitted from this study as the characteristic of speech produced under a condition of dysarthria is related to damage to the articulatory apparatus or to the motor encoding command, which converts the string of phonetic specifications into motor programs to be sent to the articulators for speaking, and patients with this condition have difficulty in articulating speech sounds correctly, i.e., this is a phenomenon of phonetic disintegration. In this study, aphasic errors were collected from five patients whose brain damage resulted from trauma, vascular disease, or tumors. Table 1 summarizes the significant features of each patient's case

TABLE 1

Patient Summary

Patient	Sex	Age	Education	Work	Etiology	Aphasia	Post Onset (y;m)
HY	F	25	University	Student	Vascular Disease	Conduction	2;01
YL	M	37	Senior High	Business	Trauma	Broca	1;11
JH	M	50	Senior High	Business	Tumor	Wernicke	2;01
GD	M	53	College	Engineer	Tumor	Wernicke	2;01

CC	M	40	M.A.	Government Official	Trauma	Broca	2;08
----	---	----	------	---------------------	--------	-------	------

Five aphasics participated in this study, and the patient group contained two Broca's, two Wernicke's and one conduction aphasics. Broca patients exhibit typical speech patterns characterized by slow and halting speech, and they are often unable to initiate fluent production of words. Wernicke patients, on the other hand, show prototypical speech patterns in which comprehension of words and sentences are severely impaired; their speech output is fluent but it makes very little sense. Conduction aphasia involves a syndrome in which one is not able to repeat spoken languages. All of these aphasic patients suffer from unilateral damage on left hemisphere in relation to cerebral vascular disease, brain trauma, or brain tumor. None of these patients have hearing or visual problems.

The second corpus is based on 3,632 speech errors from a corpus also collected by the author from native speakers of Mandarin between 1995 and the present. The speech error data are derived from brief excerpts of taped-recorded natural speech. These excerpts are taken from free conversation, conference discussions, broadcasts, lectures, and interviews with students, with over a hundred different speakers whose ages range from 20 to 50 years. It should be noted that not every speaker produced errors in the excerpts held in the data collections.

For each error in the two corpora, the author and her research team recorded the complete utterance including self-corrections, and relevant contextual information; portions were written in the International Phonetic Alphabet as appropriate. Thus the errors will be reported below in terms of the actual pronunciations subjects produced during the error utterance. In each example, the first line will be the intended utterance (in surface phonetic transcription); the second line will provide a morpheme-by-morpheme gloss. The third line will be the error utterance, again in phonetic transcription, and the fourth a translation into English of the intended utterance. In the intended and error utterances, the target, source, and error elements are written with underlined and boldface characters. The element to the left of the arrow is the target, and the element to the right of the arrow is the error. A single-headed arrow indicates 'is replaced by', and a double-headed arrow indicates 'exchange.' The term 'ungrammatical' following the gloss of the intended utterance means either that the error utterance violates syntactic rules of Mandarin, or that the error utterance contains a semantic anomaly that renders it meaningless.

In the two corpora, subjects ranged from monolingual to trilingual, with Mandarin as their first language and English or Taiwanese as their other language(s) if any. However,

all the errors were collected when the speakers were conversing in Mandarin; any errors which showed a bilingual influence were not included in the data set to be examined in this paper.

The errors in the two error corpora are classified according to the following four criteria: the error units as broadly classified into phonological, lexical/morphological, syntactic, and bilingual categories; the linear relationship between the error and source (i.e., directionality of the error); the type of error (substitution, addition, deletion, etc.); and, for phonological errors, the position in the syllable in which the error occurred.

In the two error corpora, errors are classified as ‘phonological’ if non-meaningful phonological units are involved: phonetic features, single consonants or vowels, clusters of segments (including consonants clusters, rhymes, etc.), whole syllables, and tones. Errors are classified as ‘lexical’ or ‘morphological’ if one ‘lexical’ or ‘morphological’ item is involved in the utterance, respectively. Usually, true lexical errors can be distinguished from phonological errors in that semantic errors nearly always preserve lexical category, and regularly they are semantically related to the intended word; a phonological relationship is less common. Phonological errors, on the other hand, frequently violate lexical category and have no semantic relationship to the target word; thus they typically produce an ungrammatical or meaningless utterance. Errors are classified as ‘syntactic’ if a whole word or compounds are moved and the word order is thus changed; both target and interfering units are contained within the discourse context. Errors are classified as ‘bilingual’ if a given error is the result of interference from a language (other than the one being spoken) in which the speaker is fluent or of which he or she has significant knowledge. Since syntactic and bilingual errors are not the main issue of this study, the detailed findings related to them will not be discussed here. The following examples illustrate the method used in this study for the classification of errors in cases that were unclear. For example,

(4) wɔ21 ʃi5 law21 ta51 →

I am old big

wɔ21 ʃi5 ta21 ta51 (law → ta)

‘I am the eldest’ → meaningless

This spontaneous speech error is best analyzed as an instance where the segment of the syllable [ta21] is anticipated and substituted for the segments of the syllable [law21], leaving the tone of [law21] in place. However, one might classify this case as a semantic

error in which the lexical item [ta21] ‘to hit’ replaces another lexical item [law21] ‘old.’ This interpretation is not correct since it is generally accepted that phonological errors may be distinguished from true paradigmatic semantic substitution errors in that semantic errors nearly always preserve lexical category, and are usually semantically related to the intended word; a phonological relationship is less common. So in this case, the error [ta21] is a verb ‘to hit’ whereas the target [law21] is an adjective ‘old,’ and the error word is not of the same lexical category as the target. It has no semantic relationship to the target, and is not phonetically similar other than having the same tone; the resultant utterance is ungrammatical.

(5) tan51-kaw55 mej35-lɿ →

egg-cake disappear-perfective aspect

tan51-taw55 mej35-lɿ (k → t)

‘The cake is gone’ → meaningless

This aphasic error is best described as a case where the consonant [t] is anticipated and substituted for another consonant [k]. Similarly, one could classify this case as a semantic error where [kaw55] is a noun ‘cake’ in compounds, and [taw55] ‘knife’ is also a noun; however, in the intended utterance such a compound would be meaningless and ungrammatical. Note that there is more phonetic similarity between the target and source in the lexical substitution error, as shown in (6):

(6) jaw51 ɕjow55-tɕjen21 i35-ɕja51 →

need mend-cut one-below

jaw51 ɕjow55-ɕi35 i35-ɕja51 (ɕjow55-tɕjen21 → ɕjow55-ɕi35)

rest-breath

‘(His hair) needs to be trimmed a little bit.’ → ‘(He) needs to take a little rest.’

This aphasic error is best analyzed as an instance of malapropism where there is only a phonological relationship because the two lexical items, [ɕjow55-tɕjen21] ‘trim’ and [ɕjow55-ɕi35] ‘rest,’ which can both be classified as the verb, are substituted for each other but are not semantically related.

In addition, the ‘minimal movement’ principle (Laubstein, 1987) has been adopted. That means that the simplest, or most conservative, analysis was chosen, which involves the smallest segmental error unit. The reason for adopting such a principle is that the majority of unambiguous phonological errors involves single consonants or vowels (e.g., Fromkin, 1973b). If this principle is not adopted, one could freely choose a preferred analytic

approach, which could bias the analysis in favor of the researcher's preferred hypotheses. Let us analyse, for instance, the following example.

(7) kaŋ55-ts^haj35 tɿ taw55 →

previous-MOD knife

kaŋ55-ts^haj35 tɿ kaw55 (t→k)

'the knife that was just here' → meaningless

One might argue that in this example the onset, nucleus and tone of [ka55] were perseverated and substituted for the target units [ta55]. However, according to Dell's (1984) 'repeated phoneme' analysis, the simplest way to classify such errors is to suggest that the onset consonant [k] and [t] were involved in the error, and that the phonological similarity of the remainder of the two words facilitated the error. Dell (1984) found that repeated phonemes in the same word are contributory causes of phoneme exchanges, anticipations, or perseverations.

It is often noted that in naturally-occurring, or experimentally-elicited, speech error data there is evidence that the likelihood of sound substitutions creating real words is greater than would be expected by chance alone (Baars, Motley & MacKay, 1975; Dell & Reich, 1981), and true semantic errors nearly always preserve lexical category; the error word is usually semantically related to the intended word. Therefore, in the two error corpora if the error substitution accidentally creates a real word – which violates lexical category and has no semantic relationship to the target word – and thus it generates an ungrammatical and meaningless utterance, such substitutions will be classified as phonological errors.

FINDINGS

One of the aims of this paper is to classify the distribution of error types in aphasic speech in Mandarin and to examine the phonological characteristics of aphasic speech. In particular, there will be an examination of error types which reflect a hierarchical order of difficulty in the output of aphasic speech.

After data collection and categorization, the data for the aphasic study contained 1,140 phonological errors, 100 lexical errors, 8 morphological errors, and 6 syntactic errors for a total of 1,254 raw scores. The data for the speech-error study contained 2,204 phonological errors, 1,374 lexical errors, 27 morphological errors, and 27 syntactic errors for a total of 3,632 raw scores, as shown in Table 2. Figure 1 reflects the mean percentage of each error type for both aphasic and normal groups, a ranking of the frequency distribution of errors

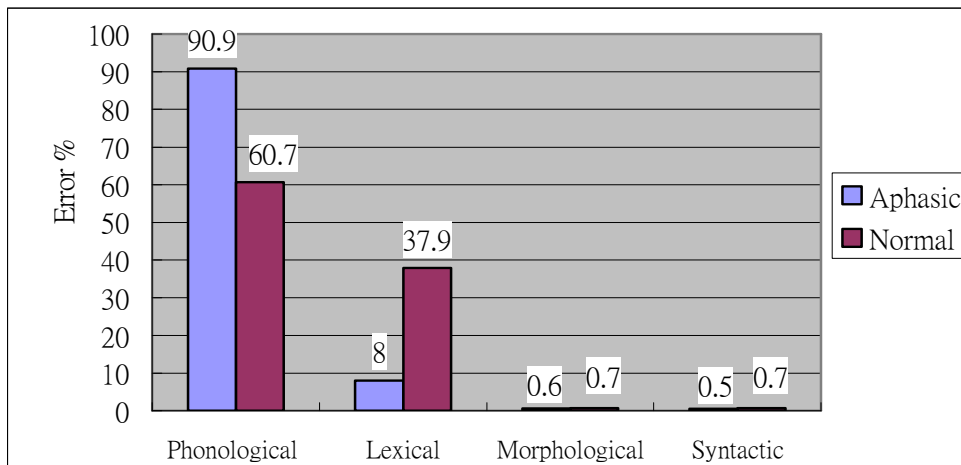
made, and the probability of occurrence for this distribution. Examples of aphasic speech and naturally-occurring speech errors are provided in (8)-(11).

TABLE 2

Major Classes of Errors in Mandarin

<i>Aphasic errors</i> N=1254		<i>Speech errors</i> N= 3632	
Phonological	N=1140	Phonological	N=2204
Lexical	N=100	Lexical	N=1374
Morphological	N=8	Morphological	N=27
Syntactic	N=6	Syntactic	N=27

Figure 1: Major Classes of Error Distribution by Percentage



(8) a. tʂi51-miŋ51 →

cause-life

tʂi51-ljŋ51 (m → l)

‘fetal’ → meaningless

Example (8a) shows a phonological aphasic error in which the consonant [l] replaces the consonant [m].

b. pu35 ʂaŋ51 fən35-ti51 →

not up powder-base

pu35 fəŋ51 fən35-ti51 (ʂ → f)

‘(she never) put on make-up’ → meaningless

Example (8b) shows a phonological speech-error case in which the consonant [f] is anticipated and substitutes for the consonant [ʂ].

(9) a. tsaj51 t^haj35-ta51 i55-ɣen51 →

in Tai-big cure-yard

tsaj51 zon35-tson21 (t^haj35-ta51 i55-ɣen51 → zon35-tson21)

glory-main

‘in the Taiwan University Hospital’ → ‘in the Taipei Veterans General (Hospital)’

Example (9a) is an error made by an aphasic subject, and is categorized as a lexical access error in that the lexical item [t^haj35-ta51 i55-ɣen51] ‘National Taiwan University Hospital’ is replaced with another lexical item [zon35-tson21] ‘Taipei Veterans General (Hospital)’.

b. jaw51 ɕi55-ɕi51 xaj35-ɕi51 tson55-ɕi51 →

want western-style or-is Chinese-style

jaw51 ɕi55-ɕi51 xaj35-ɕi51 jan35-ɕi51 (tson55-ɕi51 → jan35-ɕi51)

foreign-style

‘(do you want) western style or Chinese style’ → ‘(do you want) western style or foreign style’

Example (9b) is a speech error produced by a normal speaker, and is categorized as a lexical access error in that the lexical item [tson55-ɕi51] ‘Chinese style’ is replaced with another lexical item [jan35-ɕi51] ‘foreign style’.

(10) a. tɕwɔ55-ɕaŋ51 t^how35 →

desk-top top

tɕwɔ55-ɕaŋ51 tsi (t^how35 → tsi)

noun suffix

‘on the top of desk’ → meaningless

Example (10a) is an error made by an aphasic subject, and is classified as a morphological error in which the noun [t^how35] ‘top’ is replaced with another noun suffix [tsi].

b. pu51 nəŋ35 ɸɔŋ21-ɸen21 tow55 jaw51 wɔ21 tɕ^hy51 →

no can forever-far always need I go

pu51 nəŋ35 ɸɔŋ21-ɸen21 tow55 jaw51 wɔ21-mən tɕ^hy51 (ɸ → mən)

-plural

‘(they) can’t always make me go (to deal with something)’ → ‘(they) can’t always make us go (to deal with something)’

Example (10b) is a spontaneous speech error produced by a normal speaker, and is classified as a morphological error in which the noun plural [mən] is added to the singular pronoun [wɔ21] as a plural suffix.

- (11) a. na51 pej51 wɔ21 ts^hi55-lɤ i51-tjen21 →
that passive I eat-perfective aspect one-little
na51 **kej35** wɔ21 pej51 ts^hi55-lɤ i51-tjen21
give
‘That one has been eaten a little by me’ → meaningless

Example (11a) is an error made by an aphasic speaker, and is categorized as a syntactic error because in that the lexical item [kej35] is inserted in the syntagmatic string, and the passive marker [pej51] is moved after the lexical item [wɔ21], causing the sentence to be ungrammatical.

- b. t^ha55 i21-tɕiŋ55 aj55 t^ha55 pa51-pa51-tɤ ma51-lɤ →
she already-pass get he father-father-genetive scold-perfective aspect
t^ha55 i21-tɕiŋ55 **pej51** aj55 t^ha55 pa51-pa51-tɤ ma51 lɤ
passive
‘She’s got a scolding from her father.’ → ‘She’s been got a scolding from her father.’

Example (11b) is a speech error produced by a normal speaker, and is categorized as a syntactic error in that the lexical item [pej51], which is a passive marker, is inserted, causing the sentence to be ungrammatical.

Regarding the major classification of error distribution produced by the normal and the aphasic subjects, the error data in Mandarin show some similar patterns in significantly more cases than is to be expected in a random distribution. Chi-square tests with Yate’s correction were done to compare the four major classifications of error distribution within aphasic speech in Mandarin, and the results yielded a highly significant difference among the phonological, lexical, morphological, and syntactic errors within aphasic errors ($\chi^2(3) = 1498.001, p < .01$), indicating that aphasic speakers in Mandarin are more likely to produce phonological errors than errors from the other sub-categories. In addition, the results of the distribution of errors in relation to the four major types of errors show a significant difference between aphasic and normal speech errors ($\chi^2(3) = 400.976, p < .01$), again indicating that phonological errors are more predominant in the sub-categories. It is evident that phonological errors far outnumber lexical errors in both sources of data, and

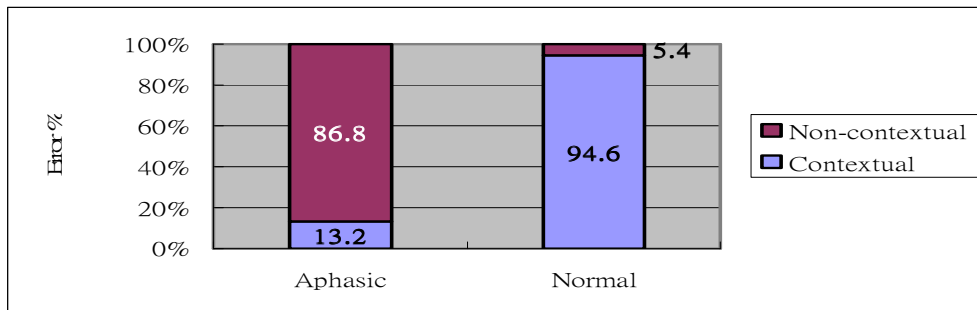
morphological and syntactic errors are both less common. In summary, there are numerically more phonological errors than semantic and other types of errors in the two error corpora. In their occurrence at any stage of the speech production planning process, phonological errors are the major types of errors distributed within the two error corpora.

Regarding the question of contextual influences, contextual errors are defined by the presence of a source element which is identical to the error unit. Non-contextual errors are defined by the lack of a source and the presence of an error that cannot be motivated by the surrounding context. Table 3 and Figure 2 present the incidence of contextual and non-contextual errors in speech-error and aphasic error corpora. Examples are given in (12-13).

TABLE 3
Contextual Influences

<i>Aphasic errors</i>	<i>N=1140</i>	<i>Speech errors</i>	<i>N=2204</i>
Contextual	150	Contextual	2085
Non-contextual	990	Non-contextual	119

Figure 2: Contextual and Non-contextual Errors by Percentage



(12) a. paj21-xwɔ51 kɔŋ55-si55 →

hundred-goods public-ministry
 paj21 xwɔ51 kɔŋ55-si55 (k→x)
 ‘department store’ → meaningless

Example (12a) is of contextual errors in aphasic speech. The consonant [x] is perseverated and substituted for another consonant [k].

b. t^haj51 laŋ51-fej51 →

too unrestrained-waste
 laj51 laŋ51-fej51 (t^h→l)
 ‘(it) wasted too much’ → meaningless

Example (12b) is of contextual errors in normal speech. The consonant [l] is anticipated and substituted for another consonant [t^h].

- (13) a. $\text{ɕjɛn55 xaj35 pu35 xwej51} \rightarrow$
first still not good
 $\text{t^hjɛn55 xaj35 pu35 xwej51} (\text{ɕ} \rightarrow \text{t^h})$
'at that moment (I) wasn't good at ...' \rightarrow meaningless

Example (13a) is of non-contextual errors in aphasic speech, and there is no identical source [ɕ] in either the preceding or following context.

- b. $\text{tjɛn51-ɸɛn35 tɕjow51 t^hwan51-lɤ} \rightarrow$
electronic-source just cut-perfective aspect
 $\text{tjɛn51-ɸɛn35 tɕjow51 k^hwan51-lɤ} (\text{t} \rightarrow \text{k})$
'The power is then off.' \rightarrow meaningless

Example (13b) is of non-contextual errors in normal speech, and there is no obvious source segment [k] in the utterance.

In speech-error data it is more likely to find the source and error occurring within a fairly narrow window, most often restricted within the clause boundary. However, such findings do not apply in the case of the data for the aphasic errors studied here. In the present study, Table 4 and Figure 2 show the frequency occurrence of distribution of source-error pairings in speech-error data and aphasic speech errors, suggesting that there are differences in the treatment of contextual influences. It is clear that the source and error are more likely to occur within clauses in speech-error data where 2,085 (94.6%) cases show source-error pairings occurring in a fairly narrow window, and only 119 (5.4%) cases do not involve a potential source in the context of the utterance. A Chi-square test was done in order to compare the aphasic errors and speech errors, and they showed a markedly significant difference with regard to source-error pairings in the two groups ($\chi^2(1) = 703.409, p < .01$). In aphasic speech errors, merely 150 (13.2%) cases involve source-error pairings occurring within clauses, and the majority of errors are not caused by potential sources within the context of the utterance (N=990, 86.8%). In summary, most phonological errors in normal speech appear to have a contextual source whereas it is unlikely to find a contextual source segment in aphasic speech.

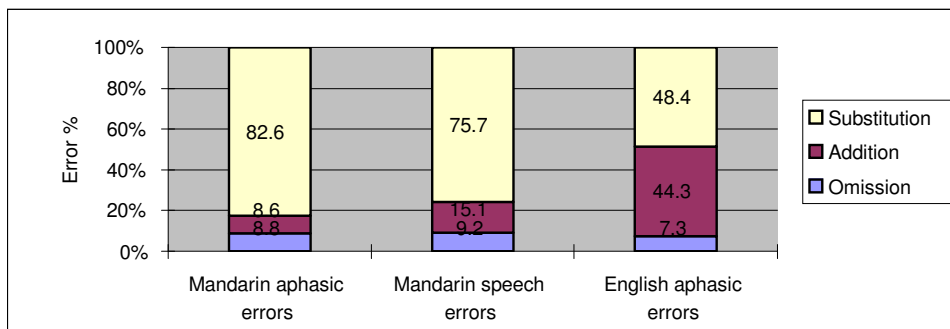
Regarding the types of aphasic errors, the distribution of errors based on raw scores of 662, 1,892, and 2,807 errors for Mandarin aphasic errors, Mandarin normal speech errors,

and English aphasic errors (Blumstein 1973), respectively, is shown in Table 4 and Figure 3. Examples are provided in (14-16).

TABLE 4
Types of Errors

<i>Mandarin aphasic errors</i> N=662		<i>Mandarin speech errors</i> N=1892		<i>English aphasic errors</i> N=2807	
Substitution	N=547	Substitution	N=1433	Substitution	N=1359
Addition	N=57	Addition	N=285	Addition	N=1242
Omission	N=58	Omission	N=174	Omission	N=206

Figure 3: Phonological Errors by Percentage



(14) a. t^hwej51-ɕjow55 →

quit-relax

ts^hwej51-ɕjow55 (t^h→ts^h)

‘retired’ → meaningless

Example (14a) shows an aphasic error in which the consonant [ts^h] replaces the consonant [t^h].

b. zaw51-ɿɿ i51-tɕ^hɸen55 →

circle-perfective aspect one-circle

ɿaw51-ɿɿ i51-tɕ^hɸen55 (z→ɿ)

‘to wind around’ → meaningless

Example (14b) shows a speech-error case in which the consonant [ɿ] is anticipated and substituted for the consonant [z].

(15) a. **tsow21-taw51 na51** →

go-arrive there

tsow21-tj^haw51 na51 ($\Phi \rightarrow j$)

‘(he) went there’ \rightarrow meaningless

Example (15a) shows an aphasic error where the glide [j] is added into the target syllable [taw].

b. ni21 pu51 tɕj^hɛn35-t^haw21 \rightarrow

you not examine-give

ni21 pu51 tɕj^hɛn35-t^hj^haw21 ($\Phi \rightarrow j$)

‘You don’t see yourself.’ \rightarrow meaningless

Example (15b) shows a speech-error case in which the glide [j] is perseverated and added into the syllable [t^haw].

(16) a. tɕ^hiŋ35 ʂu55 \rightarrow

love letter

tɕ^hi35 ʂu55 ($\eta \rightarrow \Phi$)

‘love letters’ \rightarrow meaningless

Example (16a) shows an aphasic error in which the final consonant [ŋ] is dropped from the target syllable [tɕ^hiŋ35].

b. nan35 sən55-ts^hwən35 \rightarrow

hard survive

nan35 sən55-ts^hən35 ($w \rightarrow \Phi$)

‘hard to survive’ \rightarrow meaningless

Example (16b) shows a speech-error case in which the target syllable [ts^hwən35] drops the glide [w] due to an assimilatory factor.

It can be seen that within each sub-category there is a hierarchical organization of errors. It is not surprising to find that substitution errors far outnumber any other type of error, i.e., additions or omissions, the analysis of which can also be confirmed to some extent in the Mandarin speech-error corpus. A Chi-square test was done to compare the distribution of errors within the aphasic speech, and the results showed a significant difference in substitution, addition, and omission ($\chi^2(2) = 732.900, p < .01$). Aphasic patients are likely to produce more substitution errors, such errors being more common than addition and omission errors. A Chi-square test further showed a remarkably significant difference among these three corpora ($\chi^2(4) = 628.601, p < .01$). In general, the results show that there is a much greater rate of substitution errors, and a lower rate of addition errors in the

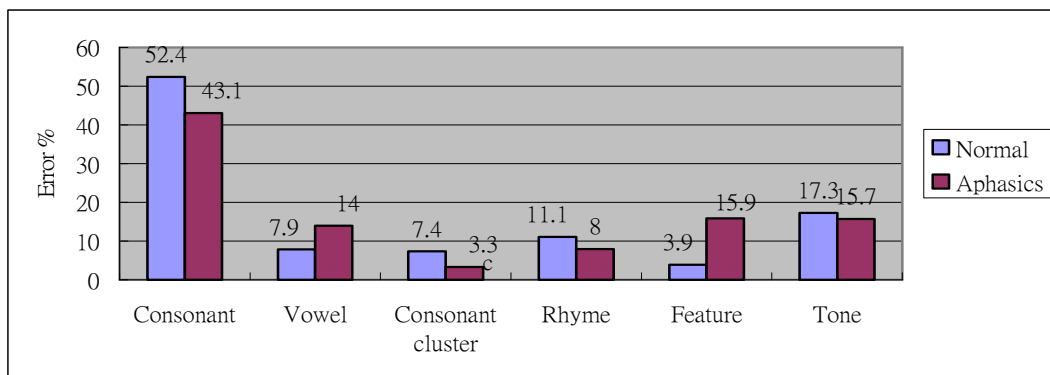
aphasic and speech errors in Mandarin. One can see that English aphasics have a slightly equal larger proportion of substitution and addition errors than Mandarin aphasics do (substitutions: 48.4% vs. 82.6%; Additions: 44.3% vs. 8.6%), and this is due to the fact that there is a strong phonotactic constraint in the Mandarin phonological system. Once a phonetic element is deleted or added, the interfering units are likely to change to their correct phonetic variants, and therefore substitution errors are favored in the normal and aphasic error corpora.

The phonological characteristics in the classification system include error unit(s) involving single consonants, single vowels, consonant clusters, rhymes, features, and tones. Table 5 and Figure 4 show the phonological units occurring in aphasic errors as in a comparison with speech errors. Examples are given in (17-22).

TABLE 5
Phonological Units Occurring in Errors

<i>Aphasic errors</i> N=662		<i>Speech errors</i> N=2280	
Consonants	N=285	Consonants	N=1194
Vowels	N=93	Vowels	N=180
Consonant clusters	N=22	Consonant clusters	N=168
Rhymes	N=53	Rhyme	N=252
Features	N=105	Feature	N=90
Tones	N=104	Tones	N=396

Figure 4: Phonological Units Occurring in Errors by Percentage



(17) a. ta51-ɕɥɛ35 →

big-school

ta51-tɥɛ35 (ɕ→t)

‘university’ → meaningless

Example (17a) is an aphasic error involving a single consonant unit in which the consonant [t] is perseverated and substitutes for the consonant [ɕ].

b. wɔ21 **pu**51 ɕi21-xwan55 tɕ^hi55 **tu**w51-fu21 →

I not like-happy eat bean-tart

wɔ21 **pu**51 ɕi21-xwan55 tɕ^hi55 **pu**w51-fu21 (t→p)

‘I don’t like eating tofu.’ → meaningless

Example (17b) is a speech error involving consonants in which the consonant [p] is perseverated and replaces the consonant [t].

(18) a. xɿ55 t^h**ən**55 →

drink soup

xɿ55 t^h**ən**55 (a→ə)

‘eat (a bowl of) soup’ → meaningless

Example (18a) is an aphasic error involving vowels in which the vowel [ə] replaces the vowel [a].

b. k**ən**51 jaw51 ts**ən**51-tsi51 →

more need value

k**ən**51 jaw51 ts**ən**51-tsi51 (ə→o)

‘(you should) value (it) more’ → meaningless

Example (18b) is a speech error involving vowels in which the vowel [o] is anticipated and replaces the vowel [ə].

(19) a. ts^hwan55 **xw**ən3 k^ha51-**tɕ**i55 →

wear yellow kha-ki

ts^hwan55 **xw**ən35 k^ha51-**xw**i55 (tɕ→xw)

‘wear yellow Khaki’ → meaningless

Example (19a) is an aphasic error involving a sequence of consonant and glide. The consonant-glide combination [xw] is perseverated and substituted for another single consonant [tɕ].

b. zən35-**tɕ**ja55 **tu**w55 k^hɿ35-i21 →

people-home all can-as

zən35-**tɕ**ja55 **tɕ**jow55 k^hɿ35-i21 (t→tɕj)

‘other people can all...’

Example (19b) is a speech error involving a consonant-glide sequence in which the sequence [tɕj] is perseverated and substituted for a single segment [t].

(20) a. **kwaŋ**₅₅-swə₅₅ →

only-talk

ku₅₅-swə₅₅ (waŋ → u)

‘only talking’ → meaningless

Example (20a) is an aphasic error involving larger units in which the target syllable [kwaŋ₅₅] drops the rhyme [aŋ], and since there is no non-high vocalic segment in the syllable, the glide [w] then changes to the vowel [u].

b. **kən**₅₅ tsɿ₅₁ i35-ts^hi₅₁ →

with this one-time

kən₅₅ tsən₅₁ i35-ts^hi₅₁ (ɿ → ən)

‘(compared) with this time’ → meaningless

Example (20b) is a speech error involving rhymes in normal speech in which the vowel-nasal sequence [ən] is perseverated and substituted for the single vowel [ɿ].

(21) a. xaw₂₁ t^hoŋ₅₁ →

very painful

xaw₂₁ toŋ₅₁ (t^h → t)

‘very painful’ → meaningless

Example (21a) is an aphasic feature error where the consonant [t^h] becomes an unaspirated [t]. Note that there is no [t] source in the utterance.

b. **k^hwaj**₅₁ tɕja₅₁-zən₂₁-lɿ →

soon marry-person-perfective aspect

kwaj₅₁ tɕja₅₁-zən₂₁-lɿ (k^h → k)

‘(She) is going to get married soon’ → meaningless

In example (21b), a feature error shows that the onset [k] becomes aspirated [k^h] in anticipation of aspiration of the following [tɕ] onset, and there is no [k] source in the utterance.

(22) a. tsɿ₅₁ jε₅₁-y₂₁ →

this proverb-language

tsɿ51 jɛ55-y21 (51 → 55)

‘the proverb’ → meaningless

Example (22a) is an aphasic tone error in which the tone unit [55] replaces another tone unit [51].

b. ɕjɛn55 tʂwən21-pej51 xaw21 →

beforehand rule-prepare well

ɕjɛn55 tʂwən55-pej51 xaw21 (21 → 55)

‘prepare well beforehand’ → meaningless

Example (22b) is a speech error in which the tone unit [55] is perseverated and replaces another tone unit [21].

A Chi-square test was done to compare the number of sub-groups of errors falling into each category of aphasic errors. The results show that the error distribution in aphasic errors occurred with a great significant difference ($\chi^2(4) = 224.254, p < .01$), suggesting that this sub-group of errors is not evenly distributed, and that aphasic speakers produce more consonantal errors than the rest of the sub-groups involving vowels, consonant clusters, etc. In addition, there is a significant difference in the distribution of error between aphasic and speech errors ($\chi^2(4) = 155.823, p < .01$); aphasic speakers seem to make more errors on vowels and features. In general, phonological units occurring in errors involve more consonant errors than vowel and other unit errors in the two error corpora.

In addition, although most errors involve single segments, it is also possible to find a number of errors involving consonant-glide clusters and rhymes in both corpora. However, few cases involve consonant-vowel sequences substituting for a single segment in any of the studied corpora. So far there are a few CV sequences in speech-error corpus and no errors involving CV sequences found in the aphasic speech corpus, suggesting that VC sequences predominate over CV sequences in the two error corpora. The examination of the corpora shows that consonants are more likely to replace consonants, and vowels replace vowels, and so there are no clear instances of cross-category errors involving consonant-vowel substitutions in the error corpora.

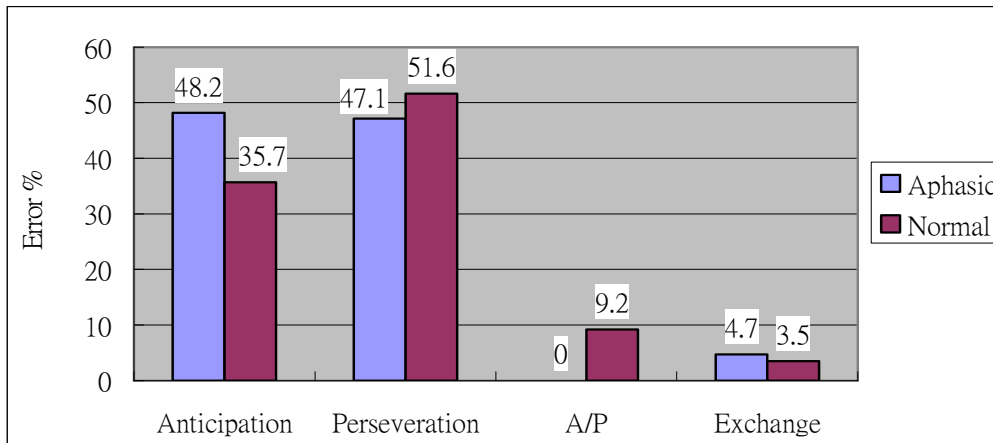
As contextual influences have been examined in the two error corpora, the forward (anticipatory) and backward (perseverative) directions that operate within clauses are the next question to be investigated. The following errors are categorized by the direction of the assimilation errors made, and Table 6 and Figure 5 show the number of the errors of various directionalities in a comparison of the data in the two error corpora. Examples are

given in (23-26).

TABLE 6
Directionality of Errors

<i>Aphasic errors</i>	<i>N=85</i>	<i>Speech errors</i>	<i>N=2046</i>
Anticipation	41	Anticipation	729
Perseveration	40	Perseveration	1056
Aniticipation/ Perseveration	0	Aniticipation/ Perseveration	189
Exchange	4	Exchange	72

Figure 5: Directionality of Errors by Percentage



(23) a. $\text{ʃan}_{51}\text{-tsi}$ $\text{ʃa}\eta_{51}$ →

fan-noun suffix up

$\text{ʃan}_{51}\text{-tsi}$ ʃan_{51} ($\eta \rightarrow n$)

‘on the fan’ → meaningless

Example (23a) is an aphasic error in which the coda consonant [n] is perseverated and substitutes for another consonant [η].

b. $\text{ts}\eta_{21}\text{-swa}\eta_{51}$ jaw_{51} ɕja_{51} pan_{55} →

main-plan will down work

$\text{ts}\eta_{21}\text{-swa}\eta_{51}$ jaw_{51} ɕja_{51} pan_{55} ($n \rightarrow \eta$)

‘finally (he) got off duty’ → meaningless

Example (23b) is a speech error in which the coda consonant [ŋ] is perseverated and substitutes for another consonant [n].

- (24) a. tʃwən21-pej51 feɹ55 →
prepare fly
tʃwən55-pej51 feɹ55 (21→55)
'prepare to fly' → meaningless

Example (24a) is an aphasic error in which the tone unit [55] is anticipated and substitutes for another tone unit [21].

- b. jow35 paj35 tɛjow21 →
nine hundred nine
jow21 paj35 tɛjow21 (35→21)
'990' → meaningless

Example (24b) is a speech error in which the tone unit [21] is anticipated and replaces the tone unit [35].

- (25) xwɑŋ35 tɔw51-ja35 →
yellow bean-sprouts
xwɑŋ35 tɔw51-ja35 (o→ɑ)
'bean sprouts' → meaningless

In Example (25), the vowel [ɑ] is either anticipated or perseverated, and replaces the target vowel [o] and therefore there are two potential sources in the utterance. Note that such a case has not been found in present aphasic error corpus in Mandarin.

- (26) a. t^haw55 t^hu55 ər21-tɕi55 →
pull out earphones
t^haw55 t^hu55 ər21-tɕi55 (t^h <-> t^h)
'pull out earphones' → meaningless

Example (26a) is an aphasic error in which the two consonant units [t^h] and [t^h] have exchanged their positions.

- b. t^hwən35 t^haj51 →
exist in
t^hwən35 t^haj51 (t^h<->t^h)
'exist in' → meaningless

Example (26b) is a speech error in which the two consonant units, [ts^h] and [ts], have exchanged their positions.

A Chi-square test does not show a significant difference between the occurrence of anticipations and perseverations ($\chi^2(2) = 39.167, p >.01$), but there is a markedly significant difference in exchanges in aphasic errors in Mandarin ($\chi^2(2) = 31.365, p <.01$). It can be seen that anticipatory errors and perseverative errors far outnumber exchange errors, a finding which is slightly different from what was found in speech errors ($\chi^2(3) = 12.092, p <.01$). An important observation evident from the speech-error data is that normal subjects in Mandarin make more perseveration than anticipation errors, and exchanges are less common than either type of error data. Aphasic subjects produce a similar amount of perseverative and anticipatory errors.

Discussion and conclusion

A total of 1,254 errors from Mandarin aphasic subjects and 3,632 relevant speech errors from native speakers of Mandarin, both collected by the author in a naturalistic setting, support the following findings related to speech production planning and execution. Compared with speech errors, the distribution of error types in the aphasic speech generally shares some phonological characteristics with normal speech errors. Regarding the occurrence and distribution of error types in a jargon aphasic speech in Mandarin, an analysis of the data reveals that these aphasic errors do not occur randomly; instead, the data shows a hierarchy. Specifically, the error profile for the aphasic speakers favors some particular error patterns at the expense of others. The findings are summarized as follows:

a) There are numerically more phonological errors than semantic and other error types. In their occurrence at any stage of the speech production planning process phonological errors are the major types of errors as distributed within the two error corpora (aphasic speech: 90.9%; speech errors: 60.7%). In the corpora of naturally-occurring English speech errors, phonological errors also account for around 60% of errors (Nooteboom, 1973). Evidence from the two error corpora in Mandarin are compatible with both Garrett's and Dell's models of speech planning, according to which the higher phonological error rates may be related to a speaker's relative inattention to the phonological level of speech, coupled with the sheer number of units involved when phonological strings are combined together.

b) Aphasic errors yield a large amount of non-contextual errors in which there is no potential source in the context of utterance. However, the majority of errors produced by normal speakers are contextual, and so it is straightforward to find an obvious source in the

context utterance, and the source and error are more likely to be situated within the clause boundary.

c) Substitution errors outnumber addition errors; the latter errors outnumber omission errors. This sequence in fact entirely reflects the natural linguistic structure common in all languages since any phonological theory will predict that substitution errors occur more frequently than other types. In substitution errors, when one segment is substituted for another, only the segmental tier is affected, while in addition or deletion errors – when a segment is added or deleted– both the segmental tier and skeletal tier are affected. Therefore, substitution is the predominant phonological process in that it causes less disruption in the phonological structure. In substitution errors the target and source segments are usually phonetically similar and occur in proximity. Dell's model predicts that segments that are more phonetically similar are more likely to interact with each other.

d) Speech errors and aphasic speech strongly observe syllable structures in that the replacing and replaced segments in substitution errors fall within the same basic category; i.e., consonants replace consonants, and vowel replaces vowels, and errors involving consonant-vowel substitution are extremely rare. Therefore, there is clear evidence of constituent structure in both error corpora, favoring the onset-rhyme division. Dell's connection model predicts more VC than CV errors at the phonological level which constituents the nucleus and the final codas together.

In general, the most consistent results found in aphasic speech in Mandarin with reference to linguistic analyses is the relative uniformity of error types and error distribution in each aphasic sub-category. Due to the general applicability found in the aphasic errors with naturally-occurring speech errors in Mandarin as a comparison, these findings may contribute to the understanding of the mechanisms necessary for speech production and planning.

However, there are still some significant discrepancies between the two corpora. First, the phonological units involved in naturally-occurring speech errors are listed as follows: Consonants > Larger units> Tones > Vowels > Feature, whereas the units occurring in aphasic errors do not show the same hierarchy, but rather they occur as Consonants > Feature > Tones > Vowels > Larger units. An analysis of the data reveals that both aphasic and normal speakers produce more consonantal errors than errors of any other type, which is not a surprising finding since cross-linguistically, consonants outnumber vowels both in terms of number of phonemes in the segment inventory and in the ratio of consonants to vowels within utterances. Therefore, phoneme frequency appears to be the best explanation

for this result. However, it is interesting to note that features and tones are the second dominant phonological units over the others in aphasic speech, and this might suggest that features and tones are more likely to be produced incorrectly in aphasic patients' speech production system in Mandarin, whereas normal speakers are more likely to make larger units (e.g., rhymes, consonant clusters) and tone errors in Mandarin; vowel and feature errors are both less common. This phenomenon might explain the issue as to why the majority of aphasic studies in the past have been in relation to tone, which involves fundamental frequency contour, pitch movement, and whole speech prosody (e.g., Lu, 1990, Sah, 1995; 2004) or to feature, which involves voice onset time (e.g., Su, 1991). In addition to consonantal errors in aphasic speech, the predominance of tone and feature over the other phonological units indicates that the suprasegmentals are important units encoded in cognitive models of speech production processes.

The second discrepancy between the two error corpora in Mandarin is related to the contextual influences in the utterance of the error. It is found that aphasic errors yield a large amount of non-contextual errors in which there is no potential source in the context of utterance. However, the majority of errors produced by normal speakers are contextual, thus it is easy to find an obvious source in the context utterance, and the source and error are more likely to be situated within the clause boundary. However, only a very limited amount of aphasic speech error data show source-error pairings, and, if there is a potential source in the utterance, the given source usually occurs across the clause boundary and it is considerably distal from the error. This finding again is not surprising because evidence from naturally-occurring speech errors in English suggests that speech is planned in clausal units in advance, and the disturbance in the speech of aphasic patients may show that they have problems monitoring larger linguistic structures functioning as units in the processes of speech production.

The final difference between the two error corpora is shown most clearly in the treatment of directionality of errors. It has been found that Germanic speakers make more anticipatory errors than perseverative errors in naturally-occurring adult speech (Nooteboom, 1973; Stemberger, 1989; Wells-Jensen, 1999), as well as in aphasic speech (Blumstein, 1973). Blumstein (1973) suggests that the predominance of anticipatory over perseverative errors was mainly due to the degree of difficulty manifested by the error in relation to programming in the process of speech production. When there are more cases involving one phoneme being substituted for another which occurs later in the utterance, such a phenomenon will indicate that the timing, which determines the specific ordering of

the utterance, must be modified before the patterns of articulatory movements can be implemented. However, evidence from naturally-occurring errors in children's speech shows that one-year-old children make more perseverative errors than children at other ages, suggesting that the directionality of phonological ordering errors made by children is different from that in adult speech (Stemberger, 1989; Jaeger, 2004). Schwartz et al. (1994) and Dell et al. (1997) suggest that less practiced, as well as disordered, speakers produce fewer anticipations and more perseverations than more fluent speakers. They reported that adult speakers are more likely to produce more anticipation errors in that the more practiced speaker is planning ahead in longer chunks, thus causing previously activated items to be deactivated sooner. This is a possible hypothesis for processing mechanisms in Germanic languages. However, this preponderance of anticipatory errors is not found in non-Germanic languages, as claimed by Min (1998 for Korean), Wan (1999 for Mandarin), and Wells-Jensen (1999 for Spanish, Hindi, and Japanese). A possible explanation for this difference relates to the different syntagmatic organizing status of tone and stress in relation to the intonational phrase (Wan, in press). Boomer and Laver (1973) found that both the target and source of a speech error usually occur within the same tone-groups (i.e., in the intonational phrase), and that the tonic syllable is usually involved in the error utterance either as a source or error, with tonic sources predominating. Thus, if a language utilizes stress as an important organizing factor, and in particular employs a tonic syllable at the end of a phrase marking new information by prosodic prominence, such a phenomenon will be a source of error, and will cause more anticipatory errors. Therefore, if there is no tonic syllable in a language, speakers will be less likely to produce anticipatory errors. It could be possible for a produced articulatory movement to contaminate one which follows, and also possible for it to affect one which has not yet occurred in the utterance, and so it is more likely that an element which is activated will remain so and intrude later, causing perseverative errors. Based on such a hypothesis, it is not surprising why aphasic speakers in Mandarin produce equal amounts of anticipatory and perseverative errors: the aphasic error data show a much lower proportion of contextual errors, and with a focus on the anticipatory and perseverative errors, there is no significant difference between the two sub-categories. The lower rate of contextual errors, specifically, the perseverative errors, reflects a less efficient monitoring mechanism in speech production planning and execution. Moreover, the lower rate of anticipatory errors reveals that the aphasic speakers are unlikely to plan ahead in terms of accessing the phonological representations of the words that have been accessed. Thus, these findings discussed above, from aphasic and

speech errors, lend further support to the assumption that the phonological patterns of aphasic speech in Mandarin reflect a disturbance of the phonological – rather than the phonetic – mechanisms of language.

This study has compared data from a corpus of errors generated by aphasic speakers with data from a corpus of normal speech errors. Comparing speech errors, the distribution of error types in aphasic speech generally shares certain phonological characteristics with normal speech errors. The most consistent findings in the phonological analyses of aphasic speech are the relative uniformity of error types and error distributions in each aphasic sub-category. The present study has shown that error distribution in aphasic speech closely resembles the nature of the errors made by normal speakers, even though there are still some discrepancies between the two error corpora. The differences suggest the ways in which the speech production system of the aphasic speakers differs from that of the normal speakers. The study has provided empirical evidence for the psychological validity of phonological units encoded in cognitive models of performance, and also suggested how these two speech corpora can be mapped onto speech production models in terms of speakers' cognitive representation and processing. More specifically, Dell's model has the advantage of showing both the serial and parallel processing evident from speech error and aphasic speech error data. However, cross-linguistic psycholinguistic studies are needed to see whether the patterns found in Mandarin aphasic speech are universal in tone languages.

*Acknowledgement: I am grateful to the anonymous reviewer for the tremendously insightful comments, which strongly helped me improve the organization and argumentation of this paper. My sincere appreciation goes to the language therapists who aided this research, especially Chi-Fen Chang at National Taiwan University Hospital for setting up a warm and supportive working environment. Part of an earlier draft was presented at the third Workshop on Theoretical East Asian Linguistics at Harvard University in 2005, and I would like to express my gratitude to the participants for their valuable comments. The revised version of the paper was done during my research visit in the Department of Linguistics at Harvard University in 2007, and I am grateful to Prof. James Huang for his help. My special thanks also go to Prof. One-Soon Her for discussions on some of the issues. I would also like to thank my research assistants, Zheng-hong Yang, Yu-Hong Zhang, Li-yun Liao, and Huei-ying Chen for providing assistance with the figures and running the statistical program. All of the remaining errors and infelicities are of course my own. The research reported in this paper has been funded by the NSC Grant 93-2411-H-004-009 of the Taiwanese state.

References

- Baars, B. J., Motley, M. T., & MacKay, D. G. (1975). Output editing for lexical status in artificially elicited slips of the tongue. *Journal of Verbal Learning and Verbal Behavior*, 14, 382-391.
- Berg, T. (1987). A cross-linguistic comparison of slips of the tongue. *Indiana University Linguistics Club*.
- Berg, T. (2006). A structural account of phonological paraphasia. *Brain and Language*, 96, 331-56.
- Blumstein, S. E. (1973). *A phonological investigation of aphasic speech*. The Hague: Mouton.
- Bock, K. & Levelt, W. (1994). Language production: Grammatical encoding. In M. Gernsbacher (Ed.), *Handbook of psycholinguistics* (pp. 945-984). San Diego: Academic Press.
- Boomer, D. & Laver, J. (1973). Slips of the tongue. In V. Fromkin (Ed.), *Speech errors as linguistic evidence* (pp.120-131). The Hague: Mouton.
- Caplan, D. (1992). *Language: structure, processing, and disorders*. Cambridge, MA: MIT Press.
- Chao, Y- R. (1930). A system of tone-letters. *Le Ma ire Phonetique*, 45, 24-27.
- Chao, Y-R. (1934). The non-uniqueness of phonemic solutions of phonetic systems. *Bulletin of Institute of History and Philology*, 4(4), 363-397. Academia Sinica.
- Chao, Y- R. (1968). *A grammar of spoken Chinese*. Berkeley: University of California Press.
- Chen, J.Y. (1993). A corpus of speech errors in Mandarin Chinese and their classification. *The World of Chinese Language*, 69, 26-41.
- Chen, J.Y. (1999). The representation and processing of tone in Mandarin Chinese: Evidence from slips of the tongue. *Journal of Applied Psycholinguistics*, 20, 289-301.
- Cheng, C. C. (1973). *A synchronic phonology of Mandarin Chinese*. The Hague: Mouton.
- Cheng, R. (1966). Mandarin phonology structure. *Journal of Linguistics*, 2(2), 135-262.
- Cohen, A. (1973). Errors of speech and their implication for understanding the strategy of language users. In V. Fromkin (Ed.), *Speech errors as linguistic evidence* (pp. 88-92). The Hague: Mouton.
- Cutler, A. (1982). The reliability of speech error data, In A. Cutler (Ed.), *Slips of the tongue and language production* (pp. 7-28). New York: Mouton.

- Dell, G. S. (1984). The representation of serial order in speech: Evidence from the repeated phoneme effect in speech errors. *Journal of Experimental Psychology: Learning, Memory & Cognition*, 10, 222-233.
- Dell, G. S. (1988). The retrieval of phonological forms in production: Tests of predictions from a connectionist model. *Journal of Memory and Language*, 27, 124-142.
- Dell, G. S. (1995). Speaking and misspeaking. In L. Gleitman & M. Liberman (Eds.), *An invitation to cognitive science. Vol. 1: Language* (pp. 183-208). Cambridge, MA: MIT Press.
- Dell, G.S. & Juliano, C. (1996). Phonological encoding. In T. Dijkstra & K. DeSmedt (Eds.), *Computational psycholinguistics: Symbolic and connectionist models of language processing*. (pp. 328-359). London: Harvester-Wheatsheaf.
- Dell, G. & Reich, P. (1981). Stages in sentence production: An analysis of speech error data. *Journal of Verbal Learning and Verbal Behavior*, 20, 611-629.
- Dell, G.S., Schwartz, M.F., Martin, N., Saffran, E.M., & Gagnon, D.A. (1997). Lexical access in aphasic and nonaphasic speakers. *Psychological Review*, 104, 801-838.
- Fromkin, V. (Ed.). (1973a) *Speech errors as linguistic evidence*. The Hague: Mouton.
- Fromkin, V. (1973b). The non-anomalous nature of anomalous utterances. In V. Fromkin (Ed.) (1973a). *Speech errors as linguistic evidence*. (pp. 215-242). The Hague: Mouton.
- Fromkin, V. (Ed.) (1980). *Errors in linguistic performance: Slips of the tongue, ear, pen, and hand*. New York: Academic Press.
- Gandour, J. (1977). Counterfeit tones in the speech of Southern Thai bidialectals. *Lingua*, 41, 125-143.
- Garrett, M. (1975). The analysis of speech production. In G. H. Bower (Ed), *The psychology of learning and motivation* (pp. 133-177). London: Academic Press.
- Garrett, M. (1980). Levels of processing in sentence production. In: B. Butterworth (Ed.), *Language production V.1, speech & talk* (pp. 177-220). London: Academic Press.
- Garrett, M. (1984). The organization of processing structure for language production. In D. Caplan, A.R. Lecourse, & A. Smith (Eds.), *Biological perspectives on language* (pp. 172-193). Cambridge: MIT Press.
- Garrett, M. (1988). Processes in language production. In F. Newmeyer (Ed.), *Linguistics: The Cambridge survey III. Language: psychological and biological aspects* (pp. 69-96). Cambridge: Cambridge University Press,
- Jaeger, J. J. (2004). *What young children's slips of the tongue reveal about language development*. Mahwah, NJ: Lawrence Erlbaum Associates.

- Laubstein, A. S. (1987). Syllable structure: The speech error evidence. *Canadian Journal of Linguistics*, 32, 339-363.
- Levelt, W. (1989). *Speaking: From intention to articulation*. Cambridge, MA: MIT Press.
- Lin, Y. H. (1989). Autosegmental treatment of segmental process in Chinese phonology. Ph.D. dissertation. University of Texas at Austin.
- Lu, C. C. (1990). On the tonal production and comprehension of Taiwanese aphasics. M.A. thesis. National Tsing Hua University.
- MacKay, D. G. (1970). Spoonerisms: the structure of errors in the serial order of speech. *Neuropsychologia*, 8, 323-50.
- Min, H. S. (1998). Syllabification in Korean: evidence from speech errors. m.s. SUNY-Buffalo.
- Nooteboom, S. G. (1973). The tongue slips into patterns. In V. Fromkin (Ed.), *Speech errors as linguistic evidence* (pp. 144-156). The Hague: Mouton.
- Pulleyblank, D. (1986). *Tone in lexical phonology*. Dordrecht: D. Reidel.
- Sah, W. H. (1995). Speech prosody in Chinese Broca's and Wernicke's aphasics: An acoustic investigation of duration and fundamental frequency contour. M.A. thesis. National Cheng-chi University.
- Sah, W. H. (2004). The control of fundamental frequency in Chinese aphasics: Impaired or intact prosody. *Concentric*, 30(1), 129-148.
- Schwartz, Saffran, M. E., Bloch, D., & Dell, G. (1994). Disordered speech production in aphasic and normal speakers. *Brian and Language*, 47, 52-88.
- Shattuck-Hufnagel, S. & Klatt, D. (1979). The limited use of distinctive features and markedness in speech production. *Journal of Verbal Learning and Verbal Behavior*, 13, 41-55.
- Shattuck-Hufnagel, S. (1983). Sublexical units and suprasegmental structure in speech production planning. In P. MacNeilage (Ed.), *The production of speech* (pp. 109-136). New York: Springer-Verlag.
- Shattuck-Hufnagel, S. (1986). The Representation of phonological information during speech production planning: Evidence from vowel errors in spontaneous speech. *Phonology-Yearbook*, 3, 117-149.
- Shen, J. (1993). Slips of the tongue and the syllable structure of Mandarin Chinese. In S-C. Yau (Ed.), *Essays on the Chinese language by contemporary Chinese scholars* (pp. 139-162). Paris: Centre de Recherches Linguistiques sur l'Asie Orientale-Ecole des Hautes Etudes en Sciences Sociales.

- Stemberger, J. (1983a). Speech errors and theoretical phonology: A review, *Indiana University Linguistics Club*.
- Stemberger, J. (1983b). The nature of /r/ and /l/ in English: evidence from speech errors. *Journal of Phonetics, 11*, 139-147.
- Stemberger, J. (1984). Structural errors in normal and agrammatic speech. *Cognitive Neuropsychology, 1*(4), 281-313.
- Stemberger, J. (1989). Speech errors in early child language production. *Journal of Memory and Language, 28*(2), 164-188.
- Su, I. C. (1991). An acoustic investigation on Chinese aphasia. M.A. thesis. National Tsing Hua University.
- Wan, I. P. (1997). The status of prenuclear glides in Mandarin Chinese: Evidence from speech errors. *Chicago Linguistics Society, 33*, 417-428.
- Wan, I. P. (1999). Mandarin phonology: Evidence from speech errors. Ph.D. dissertation: SUNY-Buffalo.
- Wan, I. P. (2002a). Asymmetry in Mandarin consonant articulations: Evidence from slips of the tongue. *Concentric, 28*(2), 1-25.
- Wan, I. P. (2002b). *Alignments of prenuclear glides in Mandarin*. Taipei: Crane Publishing.
- Wan, I. P. (2006). On correlating aphasic tones with tone errors in Mandarin. *Taiwan Journal of Linguistics, 4*(2), 85-112.
- Wan, I. P. (to appear). Mandarin speech errors into phonological patterns. *Journal of Chinese Linguistics*.
- Wan, I. P. (in press). On the phonological organization of Mandarin tone. *Lingua*.
- Wan, I. P. & Jaeger, J. (1998). Speech errors and the representation of tone in Mandarin Chinese. *Phonology, 15*(3), 417-461.
- Wan, I. P. & Jaeger, J. (2003). The phonological representation of Taiwan Mandarin vowels: a psycholinguistic study. *Journal of East Asian Linguistics, 12*, 205-257.
- Wells-Jensen, S. (1999). Cognitive correlates of linguistic complexity: A cross-linguistic comparison of errors in speech. Ph D dissertation: University at Buffalo, State University of New York.
- Wu, Y. (1994). Mandarin segmental phonology. Ph.D. dissertation. University of Toronto.
- Yang, W. (1997). Speech errors in Chinese: a psycholinguistic study. Ph.D. dissertation: University of Victoria, BC.



Metaphors Following the Model 'N of a N'

Anastasia Khudyakova
Barnaul State Pedagogical University, Russia

Bio Data:

Anastasia Khudyakova is a postgraduate student in Germanic languages at Barnaul State Pedagogical University, Russia, and a teacher of English and Technical Translation. Her research areas are cognitive linguistics and metaphor studies.

Abstract

The article gives an insight into the type of metaphors built according to the structural model 'N of a N' like in '*a pearl of a job*', '*a bear of a man*', '*a monster of a dog*', etc. Such metaphoric constructions have been devoid of attention in linguistic literature, but this can probably be explained by the low frequency of their use, not by their syntactic or semantic simplicity. Both of these aspects are discussed here. From a syntactic point of view, these constructions are characterized by subject-predicate relationships, where the second noun is a head and the first noun according to its functional characteristics is very close to an adjective. Semantic analysis gives rise to the typology of these metaphoric expressions.

Key words: cognitive linguistics, metaphor, noun phrases, concepts

Introduction

This paper is concerned with a certain type of metaphors which follow the model 'N of a N'. It discusses semantic and grammatical features of the nominal constructions consisting of two nouns connected with the preposition *of* in the English language. These constructions have reversed subject-predicate relations, so that the first noun is the predicate and the second is the subject. The examples of these phrases are: '*a hell of a trip*', '*a giant of a man*', '*a nut of a body*', '*a box of a room*', '*a whale of a time*', '*a pearl of a song*' and the like. The first noun in this phrase denotes a property or a quality of the referent of the second noun.

The phrases of this type are not very frequent in English, as the analysis of the contemporary fiction literature shows: the examples are very scarce, in average around three instances per book.

These constructions have a very high degree of expressiveness and show unlimited capacities for creating new unexpected images. This structural model N of a N, together with such models as AN and NN, occupies one of the leading positions in the stock of idiomatic phrases. (Barchenkov 1981, p. 6)

We should recognize two types within the stock of these phrases: metaphorical and literal. Literal constructions are merely categorizing, that is the first noun presents the category to which the second noun belongs. Most of the phrases, based on these patterns insults and contain offensive vocabulary, which are expressed either by the first noun, such as in '*a fool of a driver*', '*a bitch of a secretary*', '*a bastard of a blackmailer*', '*a fart of a bishop*', '*a slut of a schoolteacher*', '*pighead of a commander*', '*a dummkopf of a husband*'; or by both nouns '*sonuvabitch of a moron*'; the less numerous instances that cannot be strictly referred to as insults are nevertheless highly evaluative, with prevailing negative assessment, such as in '*thief and robber of an agent*', '*a failure of an attorney*', '*creative genius of a financial officer*', '*a crack of a sound*', etc. .

Contrary to Gluckesberg-Keysar theory⁴ that suggests literal understanding of metaphors, equals metaphoric processes with categorization and treats metaphoric expressions as class-inclusion statements, metaphorical expressions are understood here as those involving mapping of the structure of one domain onto the structure of the other, as in, '*great white beast of a car*', '*a mountain of a woman*', '*sweet and perfect peach of a day*'.

The formal test for the distinction between literal and metaphorical expressions is the removal of the *of a*-sequence, which results in the loss of metaphorical meaning, while literal constructions, on the contrary, retain their meaning even with the *of a* deletion. For example, '*a bastard of a blackmailer*' and '*a bulldog of a man*'. The first example is a literal construction and it allows compression to '*a bastard blackmailer*' without the loss of meaning, while with the second example such compression ('*a bulldog man*') is problematic.

Even though the primary concern of this paper is the metaphorical nominal phrases, it should be emphasized that all the constructions of this type are highly expressive and can be easily referred to as the instances of creative use of language. This is revealed, for example, in the comparison of literal constructions with their AN counterparts (cf. '*a fool of a driver*' and '*foolish driver*').

⁴ Gluckesberg, S. and Keysar, B. (1998) *How metaphors work*. In *Metaphor and Thought*. edited by A. Ortony. Cambridge: Cambridge University Press. 18: (401-424).

The group of metaphoric phrases is not homogenous either, it comprises idiomatic coinages (e.g. *a hell of a...*, *a heck of a...*) and free coinages (e.g. *'a whisper of a giggle'*, *'a scarecrow of a house'*, *'a bird's-nest of a plan'*). It is hard to draw a clear borderline between them, but Aarts (1998) proposed a criterion for such distinction. According to him, idiomatic phrases unlike free coinages do not allow adjectival premodification of the first noun that easily.

“Thus, although we can have, for example, *an absolute hell of a problem*, with an intensifying adjective, we can hardly say **a dreadful hell of a problem* or **a tiresome heck of a journey* which contain descriptive adjectives.” (Aarts, 1998, p. 122)

This criterion sounds reasonable and the examples prove the tendency of these idiomatic phrases not to be combined with a descriptive attribute. Although one can come across instances like *'a hard bony hell of a huge claw'*, *'a screaming hell of a battle'*, *'a whole heck of a lot of damage'* that show that such premodification is not impossible, the overwhelming number of examples where such idiomatic phrases are not preceded by a modifying adjective shows that instances with premodification are statistically insignificant.

Further the grammatical and stylistic properties of this structural type of metaphor will be discussed in more detail.

Main properties of “N of a N” metaphors

First of all, the main characteristics of this kind of metaphors relevant for their further analysis will be pointed out. The first feature that can be easily derived from the structure of these metaphors is their nominal nature. In **nominal or noun metaphors** both source and target belong to the same lexico-grammatical class of words – nouns.

Nominal metaphors are probably the most largely studied and there can be several reasons for this. First of all, they are easy to recognize in the text, because of the structure that obligates both vehicle and topic to be explicitly present, and therefore they are easier to analyze than metaphors expressed by verbs, for example. Secondly, they occur in the text more often, which is easily explained by the fact that they are expressed by the most frequently used part of speech – every fourth word used in the English language is a noun.⁵ But the more important reason is that nouns have a more expressive potential than any other part of speech. This is achieved due to characteristic features inherent to nouns. Some

⁵ Johnson, S., Hofland, K. (1989). *Frequency Analysis of English Vocabulary and Grammar*. (2 Volumes). Vol. 1: *Tag Frequencies and Word Frequencies*. Oxford: Clarendon Press.

linguists (e.g. A. Peshkovsky, O. Jespersen) point out the ability of nouns to create in the mind of the speaker and the listener a multidimensional image of an object. This ability is determined by such characteristics of nouns as the multiplaned character of their semantic features, which in its turn is manifested in the existence of a special connotative or implicative zone in their semantic structure which includes so-called potential sememes.⁶ These semantic components play a very important role in semantic enrichment of the vocabulary, because they serve as a platform in the processes of creating metaphors and idioms. These potential sememes are actualized in the context, which enables them to express additional information, showing the concept in the new aspect or emphasizing and enriching its known features. Thus, nouns can express a wide range and different shades of features.

The view of this type of metaphors as noun metaphors is based on traditional surface language grammar approach. This approach contradicting the prevailing cognitive paradigm in the study of metaphor is worth discussing because nouns, verbs and adjective are still employed for linguistic realization of the novel concepts.

“Poets consciously or unconsciously grasping the feature of life or the world seek to convey their insights in the most meaningful, vibrant and fresh manner. They select words and juxtapose them to form metaphors that both express their intuition and suggest new possible meanings”. (MacCormac, 1985, p. 46)

One of the most profound studies of metaphors within this framework was produced by Christine Brooke-Rose (1958) who describes 5 classes of noun metaphors: 1) simple replacement; 2) the pointing formulae (A... that B); 3) the copula (A is B); 4) the link with ‘to make’ (C makes A into B); and 5) the genitive (B is a part of, is attributed or is found in C, from which we can guess A).

Even that the structural type of nominal metaphors, where two nouns are connected with the preposition ‘of’, as in ‘*a nightmare of a trip*’ or ‘*an angel of a daughter*’, is not present in this classification, it is clearly most close to the third group with the form ‘A is B’ (cf. ‘*This trip was a real nightmare!*’ or ‘*My daughter is an angel*’). The copula model has been the most common model for the metaphor research, but according to Brooke-Rose the literary metaphors occur very rarely in this form (Brooke-Rose, 1958, p.128). The structural type of metaphor ‘A of a B’ is even less frequent (maybe that is the reason for its absence in the classification), but it definitely lacks that degree of attention.

⁶ Nikitin, M. (1983) Lexical meaning of the word. Moscow.

These metaphorical constructions viewed from their deep structure can be referred to the group of **predicative metaphors**. The two nouns involved in the construction are in subject-predicate relationship with each other.

It is worth noting that unlike most nominal phrases, it is the second noun in this phrase that is the head, not the first one. This fact is not immediately obvious and becomes misleading for some scholars (Abney, 1987; Napoli, 1989) who treat this construction as a nominal prepositional phrase headed by the first noun.

The notion of the head is important for the analysis of this construction, because the head not only ‘determines the internal composition of the phrase, but is also responsible for its external distribution’ (Wright, 2003, p. 373). The semantic contribution of the entire nominal phrase is provided by the element that is the head. And it can be shown that in the type of the construction under study the second noun functions as the head both syntactically and semantically.

This can be proved by a simple transformation, e.g.:

hell of a headache → hellish headache

sponge of a brain → sponge-like brain

clown of a groom → clownish groom

where ‘headache’, ‘brain’ and ‘groom’ are the heads of the phrases, not the modifiers.

To determine headedness one could also apply the criteria for establishing headedness to the analysis of the construction. We will use some of the criteria proposed by Zwicky (1993). The first criterion that he uses in his classification is the semantic argument, which applying it to the noun phrase means that ‘in a combination X + Y, X is ‘the semantic head’ if, speaking very crudely, X + Y describes a kind of the thing described by X’ (Zwicky, 1985, p. 4).

For example, in:

He was a shrimp of a boy, about six years old.

She stood with her grim purse of a mouth wide open.

Clearly in both examples it is the second noun that determines the reference of the whole phrase. A shrimp of a boy describes a kind of a boy, not a kind of a shrimp. Likewise, her grim purse of a mouth refers to a type of a mouth, not a purse.

All predicative statements, metaphorical and non-metaphorical, are used to convey information about concepts. The difference lies in the way this information is conveyed: in non-metaphorical predicate statements this information is presented explicitly, while in predicative metaphors it is expressed implicitly with the help of mapping of one domain onto the other.

In predicate metaphors the interaction between the subject and predicate nouns involves modifying the subject in order to create a novel concept. For example, in the metaphor '*knob of a nose*', the subject noun *nose* is modified by *knob*, creating the image of a small rounded knob-like nose.

This phrase presents a vivid example of **the ability of nouns to be transposed into the domains of other parts of speech.**

The analysis of semantic relations between phrase components gives grounds to assume that the mechanism of creation of this construction is a metasemiotic transposition.⁷ Metasemiotic transposition is a semantic mapping, as a result of which a word with a certain part of sentence function actualizes a secondary semantic function for this part of sentence. This transposition leads to functional rapprochement of different parts of speech on the level of semantic structure of the sentence. In the case of the construction under study there is a functional rapprochement of noun and adjective.

In terms of Halliday (2000) such rapprochement of two parts of speech can be treated as grammatical metaphor. Grammatical metaphor is based on the reconstruction of one grammatico-semantic domain in terms of another. For example, in '*a peach of a day*' quality is represented as a thing. Thus, in case of this phrase, lexical and grammatical metaphors go together.

While grammatical metaphors cover a wide range of phenomena involving all lexicogrammatical classes of words, it seems more reasonable to use a more specific term that would cover the grammatical nature of the nouns in this type of phrases. The term 'adjectival nouns' is perfectly suitable for this function. This term was first introduced by J. Ross (1973) and later developed in the works of J. McCawley (1988). Adjectival nouns occupy an intermediate position between adjectives and nouns, they have 'a meaning of a type that is normally expressed by an adjective but nonetheless belongs to the lexical category noun' (McCawley, 1988, p. 741).

⁷ Kozlova, L (1997) Problems of functional rapprochement of parts of speech in modern English. Barnaul: BSPU Press.

The nouns in this position ‘mimic’ adjectives:

He had *a hell of an accident*.

He had *a terrible accident*.

In this example both *hell* and *terrible* perform the function of a semantic modifier of *accident* and stand in the adjectival position preceding a noun. But to be able to be in this position, the adjectival noun is followed by a preposition *of*, thus complying with the syntactic rules of the English language.

This shift from nominal to adjectival functions in this type of phrases was observed by many scholars, but it should be made clear that this functional transposition of nouns into the sphere of adjectives is not equal to conversion and does not allow adjectival nouns to be called adjectives. ‘No transposed substantive can be called an adjective unless it has received a categorial marker’ (Marchand, 1969, p. 361). Thus, the special status of the nouns in this construction does not change their part of speech characteristic.

Further in this article the emphasis will be placed on semantic properties of this construction and the analysis of certain metaphorical expressions following this model.

Typology of ‘N of a N’ metaphors

Before turning to the analysis of semantic properties of this construction, it is important to present the underlying explanation theory that will be employed for this purpose.

With the emergence of cognitive perspective there has been a considerable shift in understanding of metaphor, from assigning it a purely stylistic function to a cognitive function. Metaphors have come to be treated not just as an extraordinary or figurative use of language, employed to achieve particular aesthetic effects, but rather as a form of thought, a conceptual phenomenon, whose essence is “understanding and experiencing one kind of thing in terms of another” (Lakoff & Johnson, 1980, p. 5). Metaphor in its cognitive function is widely used in different spheres of human activity in order to broaden our knowledge and create new meanings through juxtaposition of different concepts. And since metaphor is always aimed at creating new concepts its meaning cannot be literally paraphrased. On the other hand, metaphorical meaning is not some special sort of meaning, it is more important that this meaning results from a special process of constructing meaning.⁸

There are two generally recognizable frameworks within cognitive tradition of metaphor study. The first one, which is usually referred to as ‘conceptual metaphor theory’, was

⁸ Croft, W., Cruse, D. A. (2004) *Cognitive Linguistics*. Cambridge: Cambridge University Press. (193-290)

developed by Lakoff and his colleagues and originally presented in Lakoff and Johnson's book "Metaphors we live by" (1980). In this book they introduced such notions as 'source domains', 'target domains' and 'mapping', where source domain is the one that is better-known, experienced or practiced and it supports the literal meaning of the whole metaphor; target domain is lesser-known and is usually more abstract and it is the main focus of metaphor; and mapping is the process that "sanctions the use of source domain language and inference patterns for target domain concepts" (Lakoff, 1998, p. 208). It should be pointed out that metaphor in this theory is not equal to metaphoric expression - an individual linguistic expression sanctioned by the conceptual mapping. According to Lakoff these mappings are conventionalized among the members of the speech community and form a part of our conceptual system.

The second framework, referred to as 'blending theory' or 'conceptual blending theory', was suggested by Fauconnier and Turner (1995). This theory operates not with a pair of 'conceptual domains' but with four 'mental spaces'. The four mental spaces have the following roles: two input spaces can be equaled to source and target domain as understood in conceptual metaphor theory, a generic space is the one that contains structure applicable to both input spaces, and a blended space which inherits partial structure of the input spaces and has the emergent structure of its own. They claim that their four-space model is more general and sensitive than the two-domain model and includes the latter one as its special case.

Blending theory adds to the understanding of metaphor the point that conceptual metaphor theory lacks, namely that "a metaphor involves not only the activation of 2 domains, not only correspondences, but also a species of blending of 2 domains" (Croft 2004: 207). Another important contribution of the blending theory is that this model allows projection of the material from both the source and target spaces into the blend, whereas in conceptual metaphor theory only simple directional projection from source to target is possible. This difference can be explained by the different areas of interest of these two theories: conceptual metaphor theory is concerned mostly with recurring conceptual relations represented in stable conceptual system, while blending theory seems to be more interested in novel individual cases which are formed dynamically. Thus, the two frameworks addressing different aspects of metaphoric conceptualization complement each other and can be useful for the analysis.

There is one major restriction to this analysis: the direction of our analysis is not from concepts to their language realization, but from individual metaphoric expression to their conceptual relations.

The two-part structure of the metaphors under study corresponds to the source-target domain model, where the second noun and the first nouns are the referents for the source and target concept respectively.

In principle, there is an open-end number of possible linguistic realizations, but the infrequency of these constructions allows to point out the basic tendencies.

We will start from the classification of target domain concepts. The main groups of the target domain concepts that are realized linguistically in the form of 'N of a N' metaphor are the following (in the order of frequency):

1. PERSON, which has a wide range of linguistic expression, including
 - *prototypical nouns* like 'person', 'human', 'human being' (e.g. 'a speck of a person', 'a naught of a human', 'a shadow of a human being' etc.);
 - *nouns specifying gender, age or family relationship* like 'man', 'woman', 'fellow', 'guy', 'child', 'boy', 'girl', 'son', 'daughter', 'sister', 'nephew', 'husband', 'wife', 'mother', 'father', 'grandfather', 'grandson' and so on (e.g. 'a bull of a man', 'a cabbage of a woman', 'a prince of a fellow', 'a scrap of a girl', 'a popinjay of a boy', 'a crow of a wife', 'a doll of a child', 'a witch of a grandmother', etc.);
 - *nouns specifying profession, nationality or other background*, like 'doctor', 'secretary', 'nurse', 'bishop', 'captain', 'cop', 'Belgian', 'Christian' (e.g. 'a hell of an officer', 'a hell of a salesman', 'brute of a German', 'a devil of a gypsy', etc.);
2. BODY, whose linguistic expressions include the following:
 - *prototypical nouns* like 'body' (e.g. 'hulk of a body', 'nut of a body', etc.);
 - *nouns referring to body parts*, like 'head', 'hand', 'face', 'nose' (e.g. 'squashed-tomato of a face', 'sponge of a brain', 'slot of a mouth', 'mouse of a mustache', 'a blade of a nose', 'a claw of a hand', 'a water-barrel of a chest', 'wash-rag of a back', 'a cannonball of a stomach', etc.);

- *visual body actions/reactions*, such as ‘smile’, ‘grin’, ‘frown’, ‘blush’ (e.g. ‘a stone of a frown’, ‘a gape of a grin’, ‘a twist of a smile’, etc.);

- *audible body actions/reactions*, such as ‘laugh’, ‘whistle’, ‘giggle’, ‘scream’ (e.g. ‘boom of a laugh’, ‘wheep of a whistle’, ‘croak of a scream’, ‘a whisper of a giggle’, etc.);

3. BUILDING, represented by the nouns referring to the whole building or its part, like ‘building’, ‘house’, ‘hospital’, ‘hotel’, ‘church’, ‘prison’, ‘room’, ‘office’, ‘place’, ‘garage’ (e.g. ‘a mausoleum of a place’, ‘an ashtray of a room’, ‘a blister of a building’, ‘a duck of a house’, ‘a box of a cabin’, ‘a warehouse of a church’, ‘a palace of a hospital’, etc.);
4. CREATION, expressed by nouns like ‘book’, ‘novel’, ‘song’ and the like, for example, ‘a mess of a novel’, ‘a sugar lump of a song’, ‘a roast beef of a comedy’, ‘a quiet beauty of an album’, ‘a mixed-bag of an album’, ‘a fountain of a picture’, ‘the heartbeat of a picture book’, ‘hurricane of a novel’, etc.;
5. PERIOD, which has a linguistic expression with the help of prototypical nouns like ‘time’, ‘day’, ‘night’, ‘week’, ‘season’, as well as nouns like ‘life’, ‘lifetime’, ‘trip’, ‘job’, ‘show’, ‘battle’, ‘marriage’, for example ‘a hell of a time’, ‘a peach of a day’, ‘a deuce of a life’, ‘a devil of a morning’, ‘a heartbreak of a marriage’, ‘a bitch of a journey’, ‘pest of an interview’, etc.;
6. VEHICLE, with the nouns like ‘car’, ‘ship’, ‘boat’, ‘bus’ representing this concept, for example, ‘a battleship of a car’, ‘a sick whale of a bus’, ‘a runt-duckling of a boat’, ‘a mountain of a ship’, ‘a junk heap of a plane’, etc.;
7. NOISE, represented by nouns like ‘noise’, ‘racket’, ‘crack’, ‘click’, ‘ring’, for example, ‘one hell of a crack’, ‘a hell of a racket’, etc.;

8. PROBLEM, expressed by nouns like 'problem', 'mess', 'fix', 'nuisance', 'burden', 'scandal', 'row', for example, 'a hell of a mess', 'a heck of a problem', 'a devil of a nuisance', etc.

This list does not cover all the concepts, but the instances with the mapping of concepts that are not mentioned in this classification are very rare and therefore not relevant for generalization purposes.

Now let's consider the source concepts

1. HELL, with the nouns like 'hell', 'heck', 'deuce', 'devil', representing it, for example 'a hell of a gift', 'a hell of a headache', 'a deuce of a price', 'a heck of a place', etc.;

2. ANIMAL, which is represented with different groups of words:
 - *nouns referring to different kinds of animals*, like 'bull', 'beast', 'dog', 'whale', 'bear', 'hawk', 'shrimp', 'colt', 'fish', 'mouse', 'pig' (e.g. 'a rat of a captain', 'a dog of a case', 'a lamb of a child', 'a ferret of a man', 'a cow of a girl', 'a crab of a hand', 'a duck of a house', 'a moose of a lady', etc.), as well as

 - *nouns referring to some parts of animal body* 'claw', 'swine's-end' for example, 'black claw of a hand', 'a swine's-end of a face', etc.

 - *nouns referring to the sounds animal make*, like 'hiss', 'bark', 'neigh', 'twitter', 'croak', for example, 'a bark of a laugh', 'a croak of a scream', etc.,

 - *nouns referring to animal habitats*, like 'beehive', 'nest', 'kennel', for example, 'a beehive of a mall', 'a kennel of a room', etc.;

3. CONTAINER, having linguistic representation by nouns like 'box', 'barrel', 'pot', 'can', 'bag' and so on, for example, 'a pot of a belly', 'the melting pot of a playground', 'a purse of a mouth', 'a pocket of a dream', 'a box of a cabin', 'a beautiful Chinese box of a novel', 'an ashtray of a room', 'a tin can of a spacecraft', 'a barrel of a chest', 'a Turkish bath of a hall', 'a mixed bag of a

year', 'a rag-bag of a policy', 'a rust-bucket of a ship', 'a frying pan of a forehead', etc.;

4. PARAGON, which is represented with different nouns, like 'ideal', 'masterpiece', 'beauty', 'wonder', 'pearl', 'gem', 'dream', 'love', 'angel' and so on, for example, 'a child's picture-book dream of a city', 'a coquettish little love of a hat', 'one angel of a man', 'wonder of a day', 'a doll of a girl', 'a baby of a thing', 'a gem of a resort', 'a pearl of a job', 'an ideal of a house', 'a masterpiece of a headline', 'a beauty of a project', etc.;

5. MYTHOLOGICAL CREATURE, presented linguistically by such words as 'monster', 'giant', 'gnome', 'leprechaun', 'dragon', 'siren' and others like in 'a troll of a DJ', 'a sylph of a journalist', 'a leprechaun of a man', 'an ogre of a boss', 'a monster of a hang-over', 'a dragon of a housekeeper', 'an elf of a husband', 'a behemoth of a wave', 'a titan of a club', 'a hell-cat of a bride', 'a colossus of a defender', 'the Goliath of a newspaper', 'a siren of a song', 'an imp of a movie', 'a sprite of a man', 'a demon of a voice', etc.

6. SWEET, expressed by such nouns like 'honey', 'sugar', 'peach', 'cake', 'pudding', 'cherry' and others, for example, in 'a wedding cake of a hotel', 'a pudding of a film', 'a cherry of a role', 'honey of a house', 'a soufflé of a programme', etc.;

7. HOLE, represented linguistically by words like 'hole', 'hollow', 'slot', 'void', for example, 'a black hole of a marriage', 'a hell-hole of a prison', 'rat-hole of a bed', 'a well of a voice', 'hollow of a swimming pool', 'the charm-void of a script', 'a slot of a mouth', etc.;

8. WEATHER, expressed by the nouns like 'hurricane', 'blizzard', 'breeze', 'storm', for example, 'a hurricane of a row', 'a hurricane of a comedy', 'a warm breeze of a love song', 'a storm of a life' 'a blizzard of a movie', 'a tornado of a player', etc.;

9. UNHEALTH, expressed by nouns like ‘headache’, ‘spasm’, ‘blister’, ‘bruise’ and so on, for example, ‘a headache of a car’, ‘a bruise of a melody’, ‘a scratch of a new moon’ ‘another ache of a story’, ‘a spasm of a curriculum’, ‘a blister of a building’, etc.

This list of source domain concepts, as well as the list of target domain concepts, is not meant to include all possible instances, but is nevertheless useful for the purposes of analysis.

The next stage of our analysis will be the attempt to draw the main directions of interactions of target and source domains.

Table 1: Interactions of target and source domains

mapping		metaphoric expression
PERSON IS	HELL	one hell of a guy, the poor devil of a millionaire, a heck of a team player
	ANIMAL	his quiet mouse of a wife, one silly peacock of a vocalist, this cold fish of a man, an excitable puppy of a TV host
	CONTAINER	a huge tank of a man, a deluded sad-sack of a man, the greying-at-the-temples sad-sack of a teacher
	PARAGON	a porcelain doll of a woman, a gem of a girl
	MYTHOLOGICAL CREATURE	a scholarly gnome of a man, that new monster of a boss, your ogre of a boss, a gentle giant of a barman
	WEATHER	this cyclone of a man, the American typhoon of a tenor-saxist, a tornado of a player, his whirlwind of a mother
BODY IS	ANIMAL	its piggish snout of a nose, great raptor's beak of a nose, a mouse of a moustache, a claw of a hand
	CONTAINER	a barrel of a chest, his tank of a mouth
BUILDING IS	CONTAINER	a glass box of a house, the rusting old tin can of a stadium, this padded coffin of a dining room, the goldfish bowl of a small embassy
	ANIMAL	a great white whale of a hotel, a giant butterfly of a building, the cash cow of a spanking new stadium

mapping		metaphoric expression
	PARAGON	this gem of a neighbourhood restaurant, a peach of a place, an ornate, secluded pearl of a church
	SWEET	a canary-yellow wedding cake of a building, honey of a house
	HOLE	a hell-hole of a prison, a rat-hole of a hotel, a rough, sparse hole of a place, a cold, dark, damp hole of a room
PERIOD IS	HELL	a hell of a life, one hell of a night, a deuce of a game, a devil of a time, one heck of a conference, a devil of a week
PERIOD IS	ANIMAL	a real pig of a week, a swine of a season, a dog of a Sunday, a whale of a time, the horse of a lifetime
	SWEET	the cake of a heavenly morning, a peach of a ride, a huge cut-and-come-again fruit cake of a life
	WEATHER	the cyclone of a century, a funny, sad whirlwind of a journey
VEHICLE IS	CONTAINER	some modern box of a car, his sardine can of a car, a grubby old tub of a boat
	PARAGON	a dream of a car, the aesthetic beauty of a car
CREATION IS	HELL	one hell of a tale, one hell of a record, a heck of a tune
	ANIMAL	a great baggy elephant of a poem, a leg-lifting dog of a movie, a wet fish of a critique, this old war horse of a ballet
	CONTAINER	this Chinese box of a film, merry bubbling pot of a text, this little poo bag of a programme, a sad sack of a performance, a warm bath of a record
	PARAGON	a quiet gem of a novel, a small wonder of a book
	SWEET	a peach of a show, a peach of a book, Rachmaninov's lollipop of a second piano concerto
	MYTHOLOGICAL CREATURE	a monster of a bestseller, a one-eyed giant of a movie, an old, sweet siren of a song
	UNHEALTH	a dark, swelling bruise of a melody, another ache of a story

mapping	metaphoric expression
WEATHER	a fiercely punky cosmic hurricane of a song, this whirlwind of a story, this emotional desert storm of a film, a special-effects-drenched blizzard of a movie
NOISE IS HELL	a hell of a noise, a heck of a noise
PROBLEM IS HELL	a heck of a mess, a hell of a row, the devil of a lot of trouble, a devil of a problem, one heck of a hangover

These directions supplied with an extensive list of examples are definitely helpful for the understanding of this construction, but being just schematic representations they give little idea about the emergent structure that comes as a result of this mapping. Emergent structure according to the four-space model is one of the most important components of the blended space, because letting the blend to be linked to the conceptual network as a whole, it is adding the features missing in both input structures, and thus, it is novel and dynamic.

In order to do discover this emergent structure, we will analyze some individual metaphoric expressions that follow the above-mentioned conceptual mappings.

It is quite impossible to cover all metaphoric expressions, that is why the emphasis will be made on a few that are the most characteristic.

As one can see from the list of the mappings, there is almost no source concept whose structure cannot be mapped on a target concept HELL. That is why the first example we will analyze will be the one involving this concept. It has been already mentioned that metaphoric expressions with this concept as a target domain are idiomatic and the mapping concerning it are highly conventionalized among the members of a speech community.

Let us consider the metaphoric expression ‘*a hell of a day*’. It can be presented with the help of the following schematic model (fig.1):

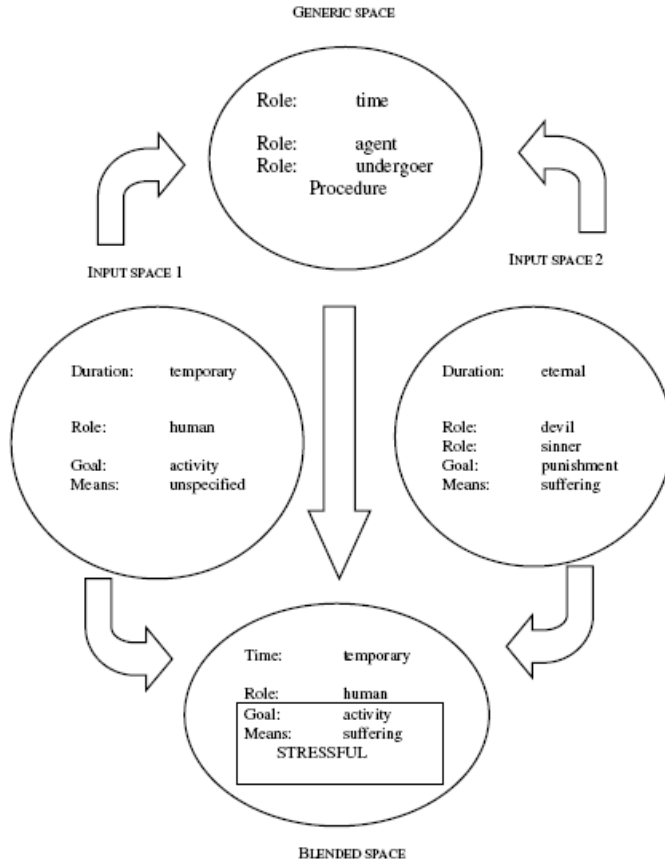


Figure 1: 'a hell of a day': conceptual blend model

The cross-space correspondences of the two input spaces constitute the mapping between them. The common structure of target and source input spaces, that is, the period during which some kind of activity is performed, is revealed in the generic space. The blend inherits some structure from each of the inputs: from the target input space, structured by the domain DAY, it inherits the temporal characteristic of a short temporary period, the identity of a person acting during that period of time; from the source input space, structured by the domain HELL, it inherits the means of performing the activity by the agent. But for this inherited structure, blend forms an emergent structure, which results from juxtaposition of 2 input elements: the goal from DAY space and the means of achieving it from HELL space, whose incompatibility leads to the idea of the day being stressful. This idea can be demonstrated in the examples like: 'I've been awake all night and I've got *a hell of a day* ahead, meetings from morning till night'; 'I had *a hell of a day* at work, everything I touched seemed to crash and burn'; 'It's been *a hell of a day* for Abby Barlow: in just a few hours, she's survived an explosion and watched her employer die', where days are described as full of stress, rush, accidents and other minor troubles.

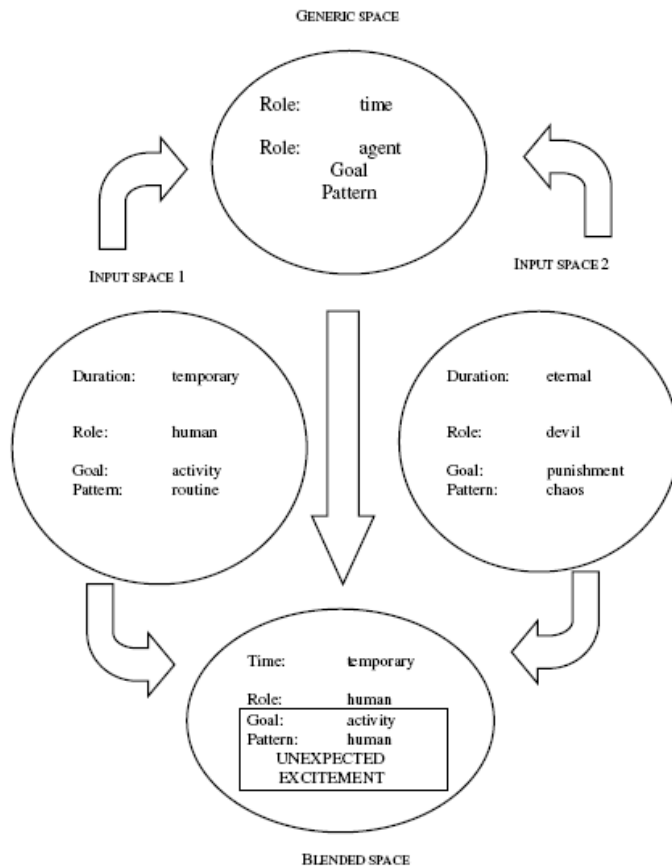


Figure 2: 'a hell of a day': conceptual blend model

But this explanation cannot shed any light on the examples like: 'Hope you're having a hell of a day!'; 'Wow, hell of a day. So many cool things going on today it's impossible to list them all' or 'A hell of a day! It's a lonng day, but a good day. I can't explain it. Just one of those days, I guess. My lucky day', where the juxtaposition of two domains gives a completely different result. It means that the conceptual blending here is based on a different relationship between source and target input domains. The model of this blending process could be presented like shown in figure 2.

Just as in the previous model, we have correspondences between target and source input spaces, which make up mapping. Generic space represents a common structure of a period for undertaking some kind of activity, which follows a certain pattern. The blended space inherits from target input space its temporal property of a short time period, the role of a human performing the activity, from the source domain it inherits the pattern of the activity. The emergency of the property like unexpected excitement is the result of juxtaposition of two elements: the goal from the input space DAY and the pattern from the

input space HELL. Using this model as a means of explanation allows understanding of the examples above.

Another reason for analyzing these two models is to show the importance of context for constructing of meaning of the metaphor. It becomes obvious from the examples like these that context has a considerable influence on the selection of the relevant elements that make up the structure of the input domains. This function of context is emphasized by scholars (Stern 2000; Croft & Cruse, 2004), but so far the mechanism of this selection has not been proposed.

Some more examples following the above mentioned conceptual mappings will be discussed in the following.

The metaphoric expression '*an ogre of a boss*' represents a mapping HUMAN IS MYTHOLOGICAL CREATURE. This expression is rather common for the description of inconsiderate, unjust employer, who is exploiting rather than properly managing the employees. For example, "Picture the scene: it's Monday morning, *your ogre of a boss* has been gruffling round the office tearing up work and biting off heads", where this metaphoric expression gets further contextual development, or like in "I would rather work with a fair minded intelligent peer than *a big ugly stupid ogre of a boss*", where the juxtaposition of *intelligent peer* and *stupid ogre of a boss*, makes the image of the latter even more repulsive.

Figure 3 shows the model of conceptual blending taking place in this metaphoric expression. The common structure of two domains formed in generic space presents an agent performing some activity in a definite work space using particular means. This common structure is a result of the correspondences in the structures of two input space domains BOSS and OGRE. The elements of the blend structure acquired from target input space are the identity of a person occupying a managing position in the company and the work space, where this activity takes place; from the source input space the blend acquires the role of the hideous monster. As a result of the juxtaposition of such elements, 'managing' and 'cruelty' emerges as a novel structural element: 'abuse' of 'power', which was not present in either of the input domains.

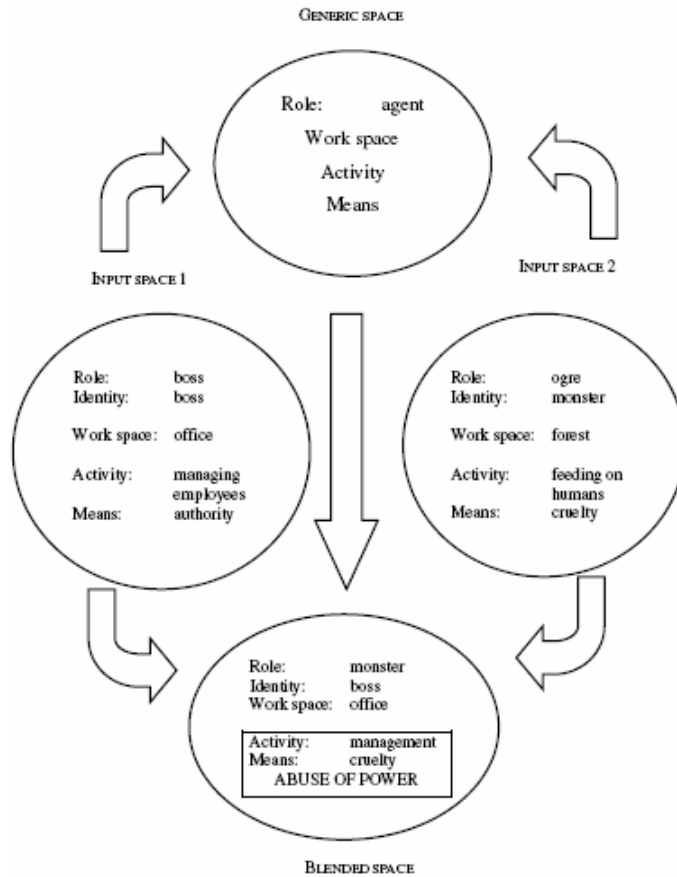


Figure 3: 'an ogre of a boss': conceptual blend model

The next example *'a peach of a song'* follows the conceptual mapping CREATION IS SWEET. The model of its conceptual blending is shown in figure 4. In generic space we have a structure shared by both input spaces, which presents an object that comes into existence as a result of activity performed by another entity and is affecting some senses of humans. The cross-space correspondences of the two input spaces SONG and PEACH constitute the mapping between them. The blend inherits from the target input domain structure such elements as the identity of a musical piece, the situation of entertainment and the sense of hearing it affects, from the source input domain it inherits the role of a sweet fruit. As a result of the structure developed in a blend we have a new emergent element of extraordinary strong kind of enjoyment absent in both input domains.

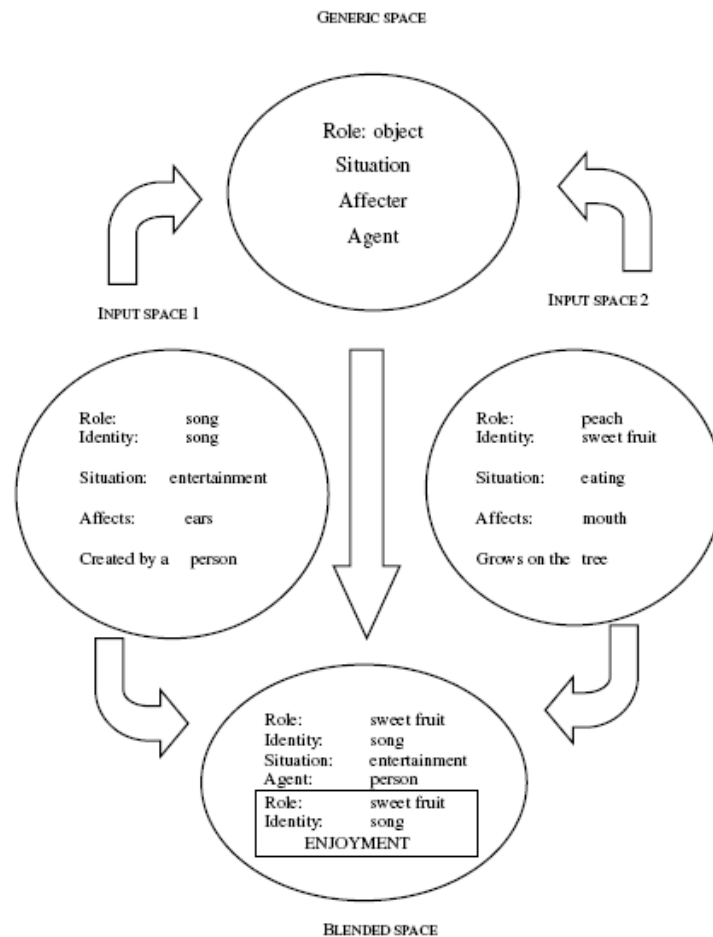


Figure 4. 'a peach of a song': conceptual blend model

This characteristic of a song being enjoyable can be marked in the following examples:

'Been around the World' is a beautifully uplifting ballad, fleshed out with Smith's fluid guitar lines - *a peach of a song!*

"Cry to be Found" is *a peach of a song* and is how songs really should be - soulful, heartfelt and, hey! call me a traditionalist, tuneful.

The mapping BUILDING IS HOLE can be represented by the metaphorical expression 'a rat hole of a hotel'. This mapping is frequently used for creating an image of a highly uncomfortable place lacking basic facilities, like in the following examples:

I'm staying in a shitty rat-hole of a hotel room on the outskirts of Cannes.

I was staying at a [rat hole of a hotel](#) in New York this week, because all the good hotels were taken by people in town for [Fashion Week](#), the [US Open](#), and the [UN meeting](#).

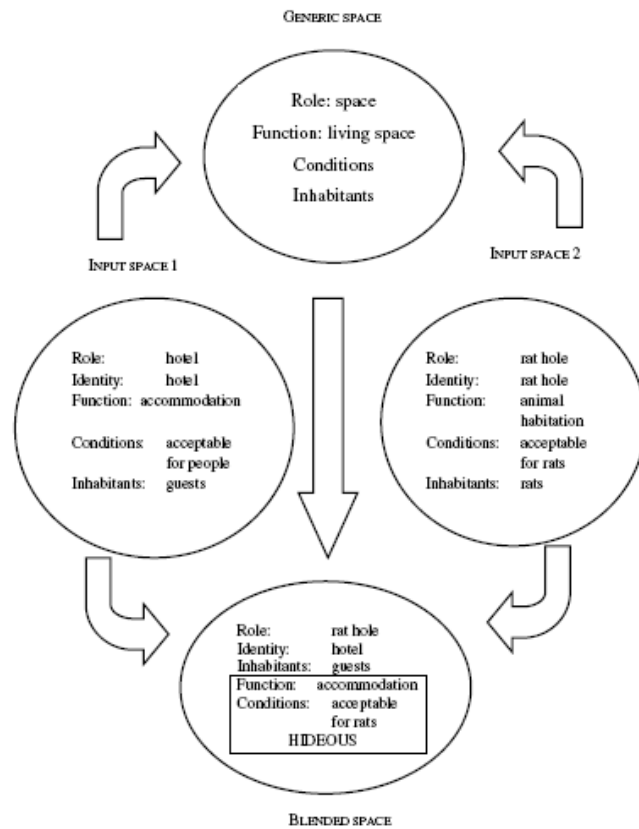


Figure 5: 'a rat-hole of a hotel': conceptual blend model

Figure 5 shows the model of the conceptual blending 'a rat-hole of a hotel'. The cross-space correspondences of the two input spaces HOTEL and RAT HOLE constitute the mapping between them and their common structure of a space with certain conditions intended for living of some inhabitants is reflected in the generic space. The target input domain donates to the blended space structure such elements as the identity of an establishment providing lodging, the identity of inhabitants as guests; the source input space gives a role of a rat hole.

The emergent element 'hideous' in the structure of the blended space arises from the juxtaposition of two incompatible elements: the function of 'accommodation' and the conditions 'acceptable for rats'.

The last metaphorical expression under analysis 'a tank of a man' follows the mapping HUMAN IS CONTAINER. The four-space model of its conceptual blending is shown Figure 6.

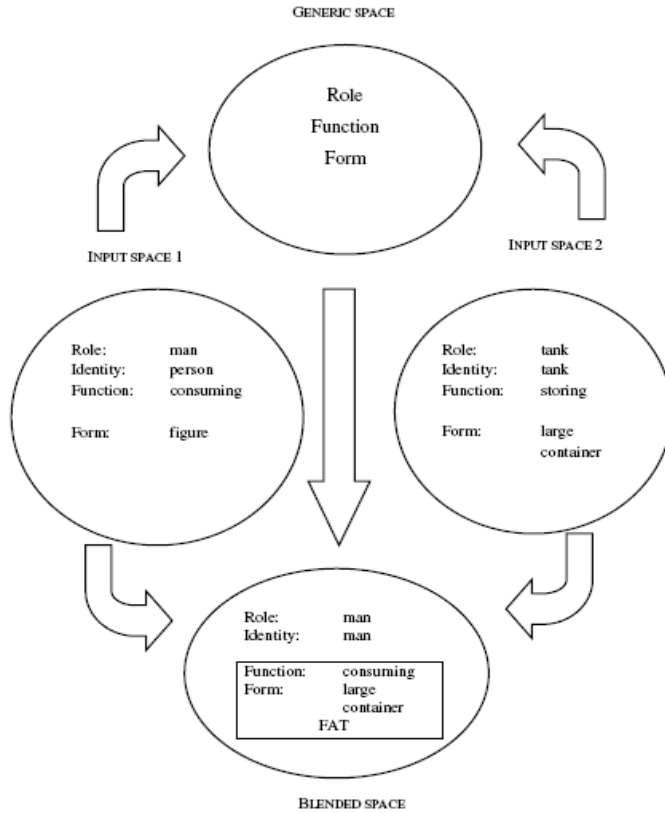


Figure 6. 'a tank of a man': conceptual blend model

The cross-domain correspondences of role, function and form create the common structure organizing the generic space. The emergent element 'fat' in the blended space structure is a result of incompatibility of the form of 'large container', inherited by the blend from the TANK input space and the function of 'consuming' inherited from the MAN input space. This emerging element is vividly seen in the examples like:

He is a huge massive tank of a man who could probably drink a whole keg without getting a shine.

She married a tank of a man, meaning he was about as wide as he was tall.

The list of the examples following the mappings listed above and presented in the form of the construction 'N of a N' could be rather long. But the aim of this paper was not to analyze all possible instances, but rather to show that this construction, being not very frequent, is quite productive, capable of creating new unexpected images and the instances of its use are not limited to idiomatic expressions.

Conclusion

The metaphoric constructions built according to the model 'N of a N' have not been given a great deal of attention in linguistic literature yet, but this fact is probably not the result of their syntactic or semantic simplicity, but rather due to the low frequency of their use, especially in written texts.

This paper concentrated on both grammatical and semantic relations within this construction. From a grammatical point of view, 'N of a N' phrase is characterized by subject-predicate relationships between its parts, where the second noun, not the first one, is the head. The first noun according to its functional characteristics is very close to an adjective, which gave rise to a term adjectival noun in reference to this specific use of that part of speech. Viewed either from the position of functional transposition or headedness this construction could be used for further research.

The nominal nature of the phrase adds to its semantic capacities, giving to it a more creative potential and expressiveness. Although metaphoric expressions in the form of this construction are mostly used as insults, the analysis shows that this model is capable of expressing both positive and negative evaluation.

The attempt to reveal the mechanisms of emergence of metaphoric meaning in these constructions was undertaken in this paper with the use of conceptual metaphor theory and blending theory as an explanatory base. The suggested classification of target and source concepts could be further elaborated. It could also be interesting to look into the realization of this construction in other languages, e.g. Dutch, German, French or Spanish, and see the selection of concepts used there.

References

- Aarts, B. (1998). Binominal noun phrases in English. *Transactions of the Philological Society*, 96(1), 117-158.
- Abney, S. (1987). *The English noun phrase in its sentential aspect*. Doctoral dissertation, MIT Press: Cambridge, MA.
- Austin, F. (1980). A crescent-shaped jewel of an island: appositive nouns in phrases separated by of. *English Studies*, 61, 357-366.
- Barchenkov, A. (1981). *Cliche in English newspaper texts*. Doctoral dissertation. Moscow.
- Brooke-Rose, C. (1958). *A Grammar of Metaphor*. London: Hardback Secker & Warburg.
- Cohen, J. (1998). The semantics of metaphor. In Andrew Ortony (Ed.), *Metaphor and Thought* (pp. 58-70). Cambridge: Cambridge University Press.
- Croft, W. & Cruse, A. (2004). *Cognitive linguistics*. Cambridge: Cambridge University Press.
- Denison, D. (2001). Gradience and linguistic change. In L. Brinton (Ed.), *Historical linguistics 1999: Selected papers from the 14th International Conference on Historical Linguistics, Vancouver, 9-13 August 1999*. (pp. 119-144). Amsterdam: John Benjamins.
- Fauconnier, G. & Turner, M. (1995). Conceptual integration and formal expression. *Metaphor and Symbolic Activity*, 10(3), 183-204.
- Gluckesberg, S. & Keysar, B. (1998). How metaphors work. In A. Ortony (Ed.), *Metaphor and thought* (pp. 401-424). Cambridge: Cambridge University Press.
- Glucksberg, S. (2001). *Understanding figurative language: From metaphors to idioms*. New York: Oxford University Press.
- Grady, J. (1997). A typology of motivation for conceptual metaphor. In R.W. Gibbs & G.J. Steen (Eds.), *Metaphor in cognitive linguistics* (pp. 86-100). Amsterdam: John Benjamins.
- Grady, J., Oakley, T. and Coulson, S. (1997). Blending and metaphor. In R.W. Gibbs & G.J. Steen (Eds.), (pp. 101-123). Amsterdam: John Benjamins.
- Halliday, M. & Mathiessen, C. (2000). *Constructing experience through meaning. A language-based approach to cognition*. London: Continuum.
- Johnsson, S. & Hofland, K. (1989). *Frequency analysis of English vocabulary and grammar*. Vol. 1: Tag Frequencies and Word Frequencies. Oxford: Clarendon Press.
- Kozlova, L. (1997). *Problems of functional rapprochement of parts of speech in modern English*. Barnaul: BSPU Press.

- Lakoff, G. (1998). The contemporary theory of metaphor. In A. Ortony (Ed.), *Metaphor and thought* (pp. 202-251). Cambridge: Cambridge University Press.
- Lakoff, G. & Johnson, M. (1980). *Metaphors we live by*. Chicago: The University of Chicago Press.
- MacCormac, E. (1985). *A cognitive theory of metaphor*. Cambridge: Bradford Books.
- Marchand, H. (1969). *The categories and types of present-day English word-formation*. Munich: Beck'sche Verlagsbuchhandlung.
- McCawley, J. (1988). *The syntactic phenomena of English*. Chicago: The University of Chicago Press.
- Napoli, D. (1989). *The predication theory: A case study for indexing theory*. Cambridge: Cambridge University Press.
- Nikitin, M. (1983). *Lexical meaning of the word*. Moscow: High School.
- Ross, J. (1973). Nouniness. In Osamu Fujiyama (Ed.), *Three dimensions of linguistic research* (pp. 137-257). Tokyo: TEC.
- Stern, J. (2000). *Metaphor in context*. Cambridge, MA: MIT Press.
- Wright, A. & Kathol, A. (2003): When a Head is not a Head: A Constructional Approach to Exocentricity in English. In J.B. Kim and S. Wechsler (Eds.), *Proceedings of the 9th International Conference on Head-Driven Phrase Structure Grammar* (pp. 373-389). Stanford: CSLI Publications.
- Zwicky, A. (1985). Heads. *Journal of Linguistics*, 21, 1-30.
- Zwicky, A. (1993). Heads, bases and functors. In G. Corbett, N. Fraser & S. McClashan, (Eds.), *Heads in grammatical theory* (pp. 292-315). Cambridge: Cambridge University Press.



Farsi-speaking Learners' Differential Command of Definite Types: A Cross-linguistic Study

Fariba Mobini
University of Isfahan, Iran

M.H. Tahririan
Sheikhbahaee University, Iran

Bio Data:

Fariba Mobini, Ph.D., is an Assistant Professor at the University of Zanjan in the Department of TEFL and Translation Studies. Dr. Mobini teaches Linguistics, Contrastive Analysis, Principles and Methodology of Translation, General English, and Persian Grammar and has research interests in the areas of the Syntax-Semantics Interface, Definiteness Contents, Interlanguage Issues, and Cognitive Facets of Approximative Systems.

M.H. Tahririan specializes in linguistics and language teaching and has taught courses and supervised dissertations at Shiraz and Isfahan Universities. His present research interests are contrastive linguistics and critical discourse analysis. He teaches at Sheikhbahaee University in Baharestan, Isfahan.

Abstract

Deficient use of the definite article has been recognized as a persistent problem in EFL situations. To investigate the matter, the present study focuses on learners' conceptualization of definiteness and in this respect differentiates between two types of simple definite noun phrases, viz semantic and pragmatic definites. To appraise learners' handling of the two definite types across L₁ and L₂, i.e. Farsi and English, a bilingual measurement on definiteness was conducted for sophomores of Zanjan University. The results were indicative of participants' more control over English definites as compared to Farsi. No correspondence was observed between participants' knowledge of definiteness in English and their General English Course grades. Students of different faculties manifested differential commands of English and Farsi definite types. Considering local language background, Turkish speaking students displayed superior performance on English definites, but there was no significant difference in this regard between students who were competent in a local language vs. those who were not. The findings were interpreted as substantiating the significant role of the meaning-based orientation to pedagogy of definiteness, the implication being that providing the learners with a utilitarian perception of definite types can promote their command of the definite article.

Keywords: definiteness, pragmatics, semantics

Introduction

The English article system is one of the most difficult functional elements for learners whose native languages do not employ special articles or article-like morphemes (Celce-Murcia & Larsen Freeman, 1999). Master (2002) attributes this problem partly to multiplicity of functions fulfilled by a single morpheme which imposes a strain on the learners who are after a one-to-one correspondence between form and function.

While traditional language methodology provides conventional grammar rules for demarcation between definite and indefinite usage types, recent methods adhering to communicative principles deal with the issue through a pragmatic perspective and emphasize the actual use of definite constructions in relevant contexts (Kempson, 1988). Accordingly, the term "definite noun phrase" has given way to "definite sense," or "definite interpretation," totally dependent on the immediate situation or context of utterance (Abbott, 2000).

The problem with pragmatic mechanisms, however, is that identification of communicative uses generally entails a holistic view of sentences, the verbal and non-verbal context, and general knowledge of the world (Lyons, 1999). Such a broad perspective occasionally fails to distinguish linguistic peculiarities of certain constructions which require the definite article; furthermore, analysis of language use is primarily a subjective, cognitive process which does not necessarily yield clear-cut results for practical objectives (Prince, 1992).

Although most inquiries in the field of pragmatics characterize definiteness as a discourse-driven trait of a predominantly anaphoric nature, linguistic data indicate substantial existence of non-anaphoric definites in natural discourse (Poesio & Vieira, 1998 ; Gundel, 2001). There is evidence that semantic descriptions may account for these antecedentless definite noun phrases. Such "semantic definites" establish their referents independently from the immediate situation or context of utterance, but refer to their referents with a semantic property of their own (Ring Low, 2003).

Moreover, theoretical reduction of definiteness to a discorsal trait (i.e., anaphora) necessitates textphoric type of activities for pedagogical purposes, leading to lengthy materials and verbose exercises not suitable for all teaching/learning situations. Besides, such intersententially oriented techniques are less lexically specific, and therefore seem to be inadequate means of dealing with a phenomenon which is occasionally phrase-specific e.g., "the nose," not "a nose" (Lobner, 1987).

Considering article misuse as an enduring problem of EFL learners even at advanced levels, the need for a specific inquiry was recognized and the present study was aimed at exploring the role of each definite type in the learners' total command of definite constructions. The study was structured on a cross-linguistic basis to detect probable relationships across L₁ and L₂ in this regard.

Background

While Pienmann (1998) ascribes learners' difficulties in appropriate application of the definite article to abstractness of the concept, i.e., semanticity of definite noun phrases, Liu and Gleason (2002, p. 5) correlate the command over this article with general proficiency level, contending that appropriate article use is a late EFL/ESL achievement, whose mastery is not practically distinct from other grammatical or lexical accomplishments.

Some case studies demonstrate that inappropriate article use chiefly ensues from the problem of transfer even across languages sharing similar article systems. Maalej (1997) surveyed English definite constructions in Arab students' written performances and concluded that mastering the use of articles is a rhetorical rather than a grammatical achievement. He further proposed that due to persistence of interference from the mother tongue, such rhetorical knowledge would be effectively acquired in a contrastive linguistic program.

Deficient article use in non-native performances has also given rise to varying methodological views and claims; each method approaches the problem from its own standpoint. Master (1988), however, states that language teaching programs have not succeeded in teaching the article system properly, because they are not backed up by sound linguistic descriptions of this system with respect to its meaning and semantic function.

Epstein (1996) relates the problem to its twofold textual instance: while formal linguistic data on the article system is primarily expressed within the bounds of sentences, pragmatic consideration of its use goes beyond, to discourse level. He further argues that the function of the definite article is not limited to referential use, and it serves expressive purposes as well, conveying the speaker's subjective stance toward the referent. Consequently, he stresses the need for a unified account of definiteness, encompassing expressive and referential uses as well as their textual evidences.

Chesterman (2005) admits that a unified theory of the English article system is nonexistent and introduces the notion of a default reading into the issue whereby a given type of noun phrase will be read as referentially definite or indefinite until circumstances indicate the contrary. The proposition is based on a classic study, de la Grassrie (1896), that

conceives of definiteness as a binary opposition, i.e., +/- definite, except for very few cases of scalar phenomena.

Despite diversity of controversies over pedagogy of the article system, linguistic characterization of its content is more concordant, primarily discussed from perspectives of grammaticalization, semantics, and pragmatics. The first of these outlooks is of the least regard for the teaching enterprise, since it is concerned with transformational reduction of lexical items to grammatical categories including articles; the diachronic nature of this outlook precludes its contribution to instructional situations. The remaining approaches have provided beneficial insights for pedagogical purpose.

Semantic outlook examines the content of definite expressions through a conjunction of propositions: the initial proposition is generally referred to as *existential constituent*. The load of the second proposition, however, is a matter of controversy involving the notions of *uniqueness*, *inclusiveness*, *familiarity* and *identifiability* (Strawson, 1968; Kempson, 1975). Text-internal clues such as prior reference, textual information, or inherent semantic property of the noun phrase may trigger these notions syntactically encoded by definite constructions.

The pragmatic view, being concerned with actual uses of definite forms, considers the process whereby text-external clues, i.e., extralinguistic information, is utilized to infer the particularity of an entity. *Situational use* and *associative use* are substantive instances of pragmatic orientation to definiteness determined by general knowledge and/ or situational conditions (Hawkins, 1978).

The final note about definiteness concerns its universal feature: the core of uses associated with this concept across languages is generally relatable to *identifiability*. While definiteness is not present as a grammatical category in all linguistic systems, identifiability seems to play a role in all languages as an element of information structure (Lambrecht, 1994). This point is worth consideration since many languages including Farsi do not possess specialized definite articles. In such cases, identifiability could be treated as the criterion differentiating between definite and indefinite structures for contrastive purposes.

Research goals

The present study focuses on the content, i.e., distinctive element in the meaning of definite noun phrases, and intends to investigate learners' probable differential command of the two types of definite expressions—semantic and pragmatic definites. To pursue the matter on a cross-linguistic basis, an *ex post facto* design was planned to examine learners' command of

the two definite types in both L₁ and L₂. The goal was to explore any systematic correspondence between learners' L₁ and L₂ knowledge of definite types.

The study questioned the control over definiteness in L₁, because it presumed that lack of specialized articles in Farsi may impair speakers' full command of this grammatical category. The assumption was that proper recognition of definiteness in Farsi depends on the knowledge gained by prior L₁ grammar instructions, probably resulting in varying levels of performance among participants.

Three other variables, viz learners' faculty affiliation, their general English scores, and local language background were considered to examine their probable modification of the relationship between prime variables, i.e., semantic and pragmatic definites of the two languages. Local language background represented familiarity with major languages other than Farsi, being spoken in different parts of Iran. They include languages such as Turkish, Kurdish, Luri, and Northern languages, viz Gilaki and Mazandarani which are not considered as official languages in Iran, and are not endowed with intrinsic standardized orthographic systems. The languages are succinctly introduced below: Turkish is a member of the Altaic family of languages characterized by its agglutinating morphology and rich case system; Kurdish, a subgroup of Indo-Iranian languages, is spoken in western part of Iran, as well as adjoining parts of neighbouring countries whose remarkable feature is the use of various adpositions marking a single head noun; Gilaki and Mazandarani, also known as Tabari, are north Iranian languages which share typological features such as inflectional and gender-free grammar; finally, Luri is the southwestern subgroup of Indo-Iranian languages which shares close similarities with Farsi due to language shift and lexical borrowing.

Participants' command of the languages mentioned above was viewed through a multicompetence paradigm that assumes a unique competence for multilinguals' functionally different from monolingual competence (Cook, 1992). Although all participants were learners of English, they were not regarded as bilinguals in English and Farsi, as they were not competent enough in English to use it communicatively. Hence, the study intended to consider their preexisting bilingual competence over languages other than English to investigate its probable effect on the target, i.e., English language abilities.

On the whole, L_x, i.e., local language background, was regarded as a moderator variable whose precise grammatical specifications from a contrastive point of view was not a major concern for the study: the rationale, as conceived by the multicompetence paradigm, was

that the primary difference between the monolingual and bilingual systems is conceptual rather than grammatical.

The study further sought to inquire into the correspondence between each variable and learners' comprehensive knowledge of definiteness in English.

Participants

The target population involved sophomores of Zanjan University with some academic background in general English. In order for the sample to be virtually representative of the faculties within the population, a stratified sample was decided upon, consisting of four subgroups which represented Faculties of Agriculture, Humanities, Science, and Engineering. About 70 participants were assigned for each subgroup amounting to a total of 276 participants for the whole study.

In order to pick the participants at random, they were chosen from among the students attending their general courses, because in those classes we could have access to a mixed variety of students from different fields of study who had attended various general English classes, extending generalizability of the findings. From each faculty, two general course classes other than English were selected. Students of these classes had either passed their general English course or were attending general English classes that semester. Since the tests were conducted in the last weeks of the semester, both groups were regarded as students with some academic background in general English. This way we drew a stratified sample comprising 276 sophomores who had received some academic instruction in English.

By prior permission of the educational administration, the tests were conducted in the last 30 minutes of class sessions. Before initiating the tests, instructions on how to carry out the task were given and statement of problem as well as research goals were explained. The participants mostly reacted positively and many of them recognized the problem as a hindrance to their performance in English. Accordingly, they cooperated attentively and were interested to know the research results.

Each faculty sample participated in the test on a single day, so that altogether, administration of the tests took four successive days, dated May 27-30, 2006.

Instruments

The cross-linguistic aspect of study entailed bilingual appraisal of the knowledge of definiteness in both languages. Consequently, the test comprised two texts, one in English and the other in Farsi. In the English text, a blank space was provided before each noun

phrase so that the whole text contained at least 30 blank spaces. Participants were required to insert "the" in the blank spaces where necessary.

Regarding Farsi texts, students were asked to underline definite noun phrases for lack of definite article morpheme in this linguistic system; although some lexical items in Farsi such as demonstratives or the adpositional object marker (*r ä*) lead to definite interpretation, none is regarded as a definite article, since definiteness is not the decisive factor in their appearance.

To extend generalizability of the findings, and at the same time provide the grounds for a comparative textual analysis, testing was structured on a variant basis: for each faculty a distinct version of the test, but with the same form and level of content, was devised; this way four bilingual tests, each consisting of two texts in each Farsi and English, were used. English texts were selected from TOEFL Essays (2002), and contained passages relating to general knowledge and common interest. The accompanying Farsi texts were either translations of English texts or original Farsi texts. The aim was to provide for a comparison of participants who had access to Farsi renderings of the English texts versus those who did not.

To elicit maximum variety of responses, the relevance and order of English and Farsi texts were not identical in four versions of the test: for faculties of Science and Engineering, the Farsi texts were translations of the English texts, whereas for faculties of Humanities and Agriculture, original Farsi texts, selected from a family health book, were used which were not renderings of the English texts. The sequence of English and Farsi texts followed a varying pattern as well: for faculties of Humanities and Science the English texts preceded the Farsi ones, while the reverse order was used for faculties of Agriculture and Engineering. Variant sequence of L₁ and L₂ texts was aimed at comparing results of the students who initially performed English texts versus those who did them after accomplishing the Farsi texts.

Test characteristics were considered in the pilot phase, at which the tests were conducted for about 90 other sophomores of the same university. The pilot study confirmed the tests as clear, objective means of testing definiteness in context; there were no signs of ambiguity regarding testees' performances. Meanwhile, since the tests merely focused on definiteness, test results were exclusively associated with the participants' command of definite constructions.

The level of texts was constrained to the average ability of sophomores based on experienced teachers' remarks in this regard, and appropriacy of test elements was

ascertained through careful consideration of lexical and grammatical items contained in the texts. Complex noun phrases were avoided to restrict test-takers' task to identification of respective noun phrases as being definite or not.

Readability of the texts

To judge the passages on an objective basis, readability statistics were employed: Flesch reading ease of the texts fell between 60-70, corresponding to 9th Flesch-kincaid grade level. The indices characterized the passages as parallel measures, matching the average ability level of Iranian sophomores who are majoring in different fields other than EFL.

Reliability

As explained before, to provide for a maximally contextualized measurement of definiteness, sentences within the test were interrelated so that the whole test constituted a single passage. This resulted in interdependence of test items which theoretically ruled out the assumption of independence of items underlying internal consistency coefficients (Bachman, 1995). Accordingly, an alternate correlational strategy was utilized to compute reliability. To do so, participants in each test were divided into two halves: the initial 50% of subjects on the data list constituted one half and the remaining 50% made the other half. Pearson correlation coefficient between the two sets of scores was regarded as the reliability index of each test. The results at the 2-tailed probability level were as follows: Faculty of Humanities: (r : .834, N : 31, p : .000), Agriculture: (r : .650, N : 28, p : .000) Engineering: (r : .751, N : 30, p : .000), Science: (r : .719, N : 28, p : .000). In all cases probability level was less than 0.05 and correlations were significant, therefore the instruments were considered to be reliable measures of definiteness in context.

Validity

The monotrait-monotype nature of the test, as it was reduced to measuring knowledge of definiteness in receptive mode, affected considerations of validity: estimation of empirical validity was dubious in the sense that it entailed some sort of comparison between test results and some independent valid criterion with the same content as measured by the newly developed test (Farhadi, Jafarpur, & Birjandi, 2001). Because of the lack of analogous standardized tests on definiteness, validating the test against an outside standard was not feasible. Regarding content validity, however, appropriacy of the test level and

appropriacy of test elements as discussed before provided the grounds to rest assured about appropriateness of the test.

Procedure

The number of participants in the test was 276. After collecting papers, however, it was noticed that some test sheets were partly performed: for instance, in a few papers only one of the texts, either English or Farsi, was answered, and in others a considerable number of items were left intact. There were also a few cases in which participants had mistaken test directions and had provided irrelevant responses. Such deficient sheets were eliminated so that finally 233 papers were marked. Scores were counted up using a binary code grading system: in English texts the intended response for each blank space, as leaving it blank or filling it with "the," was given a point of one, otherwise zero points were assigned. Similarly in Farsi texts, only appropriate identification of each definite noun phrase received a score of one. This way a total score was obtained representing the participant's command of the entire definite constructions in each language.

With respect to subject matter dichotomy, i.e., semantic versus pragmatic characterization of definiteness, an objective criterion had to be devised to differentiate semantic definites from pragmatic ones. Despite controversy over the issue, a tangible criterion was decided upon which took the quality of context into account. Definite expressions deduced from the verbal context comprising linguistic, text-internal clues were regarded semantic definites, whereas definite interpretations inferred from non-verbal contexts including social, situational, or general knowledge clues were considered pragmatic definites.

Applying the adopted criterion, we had a division of definite noun phrases into two categories, namely semantic and pragmatic definites in English and Farsi. Each subject got a separate point representing his or her command over these two categories in each language.

For each participant we had data on nine variables including points for semantic definites, pragmatic definites, and total definites in both languages, faculty affiliation, scores on General English course and local language background; most participants, i.e., 147 out of 233, had mentioned one of the previously introduced languages as their local language. The remaining 86 subjects had pointed out that they were not familiar with any local language.

Results

As it was discussed earlier, our stratified sample contained four subgroups, each representing sophomores of a distinct faculty. The data pertaining to each subgroup were

first analysed separately to yield specifications of each subgroup. This way particular performances characteristic of each faculty were identified. In the next phase, the entire participants were treated as a single sample to produce results generalizable to the whole population.

Table 1. Paired sample test comparing types of definites in faculties

Faculty	Compared Pairs	Mean Difference	t	df	Sig. (2-tailed)	Eta Squared
Humanities	PE-PF	-4.569	-1.11	61	.271	.204
	SE-SF	20.501	7.24	61	.000*	.531
	PE-SE	5.754	2.07	61	.042*	.507
	PF-SF	30.824	8.63	61	.000 *	.593
Agriculture	PE-PF	7.889	1.32	55	.190	.083
	SE-SF	27.885	8.62	55	.000 *	.543
	PE-SE	10.268	2.62	55	.011 *	.408
	PF-SF	30.264	6.07	55	.000*	.532
Engineering	PE-PF	34.745	4.98	58	.000 *	.160
	SE-SF	28.316	9.52	58	.000 *	.469
	PE-SE	9.931	1.91	58	.060	.503
	PF-SF	3.502	.81	58	.421	.669
Science	PE-PF	-20.837	-2.92	55	.005 *	.013
	SE-SF	18.945	6.711	55	.000 *	.487
	PE-SE	16.665	3.482	55	.001 *	.138
	PF-SF	56.449	9.756	55	.000 *	.481

P represents "Pragmatic Definites" and S "Semantic Definites," E stands for "English" and F for "Farsi"

Significant differences in Table 1 denote differential commands of each faculty students over pragmatic and semantic definites in the two languages. Considering the values obtained for magnitude of effect, the only consistent pattern is observable in SE-SF pairs; all groups have performed significantly better with respect to semantic definites in English as compared to semantic definites in Farsi.

In the next level of comparison all participants were regarded as a whole sample regardless of their faculty affiliation. The purpose was to identify typical performances of the intended population, i.e., university sophomores.

Table 2. Paired sample test comparing types of definites for the whole number of subjects

Pairs	Mean Difference	t	df	Sig.(2tailed)	Eta Squared
PE-PF	4.470	1.35	232	.178	.204
SE-SF	23.881	15.93	232	.000*	.531

PE-SE	10.519	4.97	232	.000*	.507
PF-SF	29.930	11.403	232	.000*	.593

Marked differences in Table 3 indicate parametric contrast in specified pairs allowing the primary proposition that within each language students had more control over pragmatic definites and across languages, they had better performance on English definite types.

The subsequent analysis questioned any relationship between knowledge of English definites and grades of general English course:

Table 3. Correlations between General English scores and types of English definites in faculties

Faculty	Pearson Correlation between	<i>r</i>	N	Sig (2-tailed)	Eta Squared
Humanities	G-PE	-.043	40	.791	.301
	G-SE	-.034	40	.837	.498
	G-T	-.254	40	.113	.665
Agriculture	G-PE	.281	54	.039*	.302
	G-SE	-.059	54	.672	.119
	G-T	.025	54	.855	.324
Engineering	G-PE	.149	21	.527	.217
	G-SE	.212	21	.355	.703
	G-T	.319	21	.158	.874
Science	G-PE	.154	21	.505	.334
	G-SE	.113	21	.626	.336
	G-T	.132	21	.569	.671
G stands for "General English scores", T for "Total Definite scores", SE for "Semantic Definites in English" and PE for "Pragmatic Definites in English"					

The only relationship was observed between general English scores of Agriculture students and their Pragmatic definite grades in English, which appeared to be an exceptional case. Results of Table 3 subsided the hunch about relatedness of English definite knowledge and general English achievement. To gain more generalized results characteristic of university sophomores as a whole, correlations were conducted for all participants.

Table 4. Correlations between General English scores and types of English definites for the whole sample

Pearson Correlation between	<i>r</i>	N	Sig (2-tailed)	Eta Squared
G-PE	.126	136	.145	.277
G-SE	.003	136	.975	.511
G-T	.029	136	.734	.636

Although the total number of participants was 233, as explained before, data regarding general English scores were available on 136 of them at the time of data analysis; correlations were calculated according to the existing grades. Again, coefficients were not significant, thereby rejecting any meaningful association between General English scores and the command over types of English definites.

The next step was to reveal meaningful differences in the performances of subgroups. Tukey's HSD Test was employed for such a post-hoc comparison: concerning each definite type the respective means obtained from faculties were compared two by two. Since there were four faculties, for each definite type 12 comparisons examined mean differences amounting to 72 compared pairs. For the sake of brevity only significant differences are listed below:

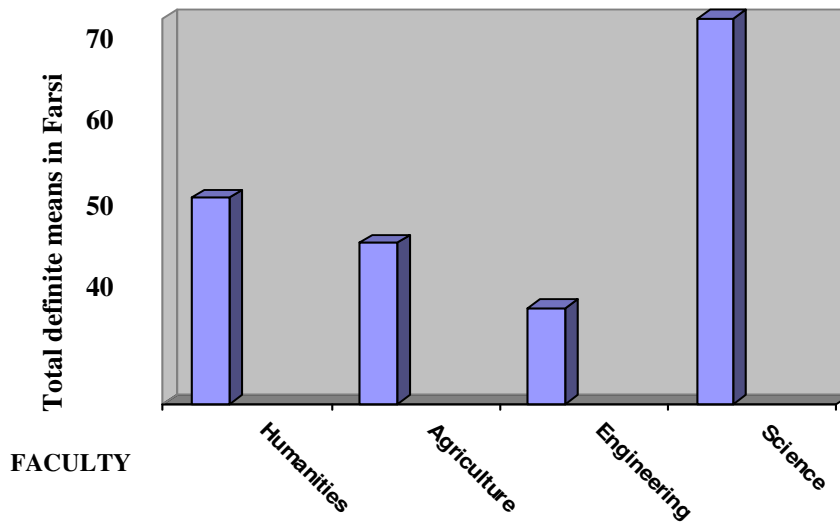
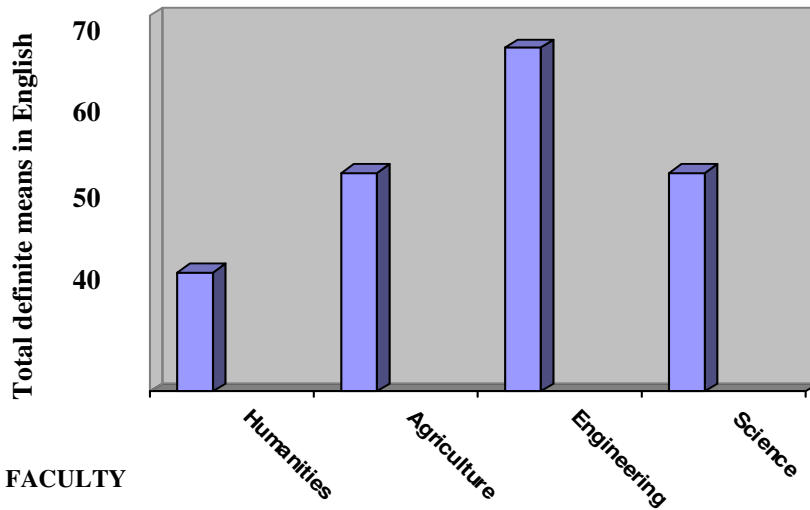
Table 5. Tukey's HSD test for multiple comparisons

Dependent variable	Compared levels of independent variable	Mean Difference	Sig.	Eta Squared
Pragmatic Definites in English	Engineering-Humanities	19.97*	.000	.598
Semantic Definites in English	Engineering-Humanities	15.79*	.000	.345
	Engineering- Science	18.85*	.000	
	Engineering-Agriculture	9.92*	.038	
Pragmatic Definites in Farsi	Science-Humanities	24.12*	.004	.377
	Science-Agriculture	26.192*	.002	
	Science-Engineering	43.46*	.000	
	Engineering- Humanities	-19.34*	.029	
Semantic Definites in Farsi	Engineering-Humanities	7.98*	.006	.285
	Engineering-Agriculture	9.49*	.001	
	Engineering-Science	9.48*	.001	

Total Definites in English	Agriculture- Humanities	6.09*	.008	.433
	Science- Humanities	5.78*	.013	
	Engineering-Humanities	13.48*	.000	
	Engineering-Agriculture	7.38*	.001	
	Engineering-Science	7.70*	.000	
Total Definites in Farsi	Science-Agriculture	13.10*	.016	.298
	Science-Engineering	16.98*	.000	
Marked differences are significant at .05 level				

Differences shown in Table 5 manifest certain patterns of consistency; students of Engineering displayed the most remarkable behavior: they had the best performance on English definite types and the worst on Farsi definites. On the other hand, students of Humanities obtained the lowest means in English definites, while the means representing their knowledge of Farsi definites were not much better.

Students of Agriculture and Science exhibited the observed tendency mentioned earlier; they had better performance in English as compared to Farsi. Yet, students of Science had the highest mean in Farsi definites. The present information does not provide sufficient grounds for generalizing the point to a wider population; there is the likelihood that the Farsi text of this group had been more manageable. In any case, commenting on the issue needs specific inquiry beyond the scope of this study. The following graphs demonstrate differential results of the four faculties.



One of the greatest concerns for this study was to determine the extent to which the command over definiteness in English is associated with such a command in Farsi. Correlational analysis shed light on the issue: Pearson correlation coefficient between two sets of 233 scores on English and Farsi definite structures was ($r: -.073$, sig. 2-tailed: .268 N: 233). The result suggested no correspondence between L_1 and L_2 in this regard.

The final statistical investigation focused on local language of participants as the independent variable; 147 of the subjects had specified their local language, ranging among Turkish, Kurdish, Luri, and northern languages including Gilaki and Mazandarani. Analysis of Variance was impractical for this purpose, since the size of groups was remarkably different. For instance, in the Turkish group there were 109 people, whereas speakers of Lory were only 7; accordingly, group means had to be compared by a non-parametric test: Kruskal-Wallis test showed that the only significant difference was

detectable in English total definites: (χ^2 : 14.837, df.:4 Asymp. Sig. 0.005); Turkish speakers with a mean rank of 80.10 had the highest performance on definite constructions in English and speakers of northern languages (Gilaki and Mazandarani) with the mean rank of 28.70 had the lowest performance in this regard.

The last stage of analysis compared participants who knew a local language versus those who did not. The means were compared with an independent *t*-test for total definites in English (*t*: .003, df. :231, sig. 2-tailed: .997). The conclusion was that with respect to knowledge of English definite constructions no difference was observed in the performances of students familiar with a local language and those who lacked such knowledge.

Discussion

The unexpected results pertain to comparison of L₁ and L₂ command over the respective definites; although at the outset some trace of transfer was presumed, the data indicated no correspondence between knowledge of definiteness across languages even in translated texts. In fact, *t*-test analysis provided evidence that students had exhibited more control over definites in English compared to Farsi. This finding can logically lead to partial substantiation of Moderate Version Contrastive discipline, assuming less difficulties for the learners who would acquire maximally different structures (Brown, 1987). In English, a special article manifests definiteness, while Farsi lacks a similar morpheme; such a gross difference, because of its apparent salience for the learners is probably more readily perceived and stored in memory.

Inadequacy of first language grammar programs may account for participants' weak performance on Farsi definites; the results are suggestive that the approach taken by present source books on Farsi grammar, as focusing on form and not the content, has not been a proper means of dealing with definiteness which is content-oriented by nature.

Learners' subjective attitudes toward L₁ and L₂, such as instrumentality of English for academic and professional purposes or underestimating first language may also cause students to overlook grammatical rules of their mother tongue. The most outstanding instance of this state concerns Engineering students who had the highest mean in English definites and the lowest in Farsi definites. Students of Humanities, on the other hand, had poor performances in both cases, which might be related to their low educational status as compared to students of other faculties.

The study yields practical applications for dual characterization of definiteness: in both languages, learners' greatest difficulties related to semantic definites. The problems probably ensued from phrasal specifications of such definite usage types including the role of other functional categories or specifiers in the noun phrase. We may conclude, therefore, that this category requires particular attention beyond the usual discursual considerations. Comparative manageability of pragmatic definites, on the other hand, was also observed in L₁ performances. The finding might be due to extra-linguistic clues which assist in sustaining definite sense.

One of the underlying goals of the study was to inquire into the relationship between knowledge of definiteness in English and some outside criterion such as General English Course grades. The results revealed no meaningful association between the two variables; in other words the control over English definites is not predictable by achievement scores in the General English Course. Since correlation analysis was conducted for a considerable number of students, (136 scores were examined), any observable association between definiteness knowledge and mastery of general English for the intended population is denied.

The final statement is that familiarity with a local language is no determining factor with respect to the dependent variable, but within the sample of students who know some local language Turkish speakers had better performance. The present data do not provide sufficient grounds for accurate explanation of the results and precise conclusions entail linguistic characterization of the relevant languages. Nevertheless, two points merit attention in this regard. Firstly, Turkish encompasses more specifications of a distinct language as compared to other local languages under investigation including Luri, Kurdish, or northern languages (Gilaki and Mazandarani). This point is concordant with multicompetence view proposed by Cook (1991, 1992) asserting that an enriched multilingual competence can result in an integrated language system with certain conceptual and cognitive benefits for learning another language.

The second point is that Turkish like Farsi lacks overt manifestation of definiteness and in both languages direct object markers denote definite sense; this similarity across Turkish and Farsi might have facilitated Turkish speakers' task in acquisition of the English definite usage which is remarkably different from their L₁ and local language. This point can again back up the Moderate Version Contrastive discipline previously discussed with respect to Farsi versus English command over definiteness; the study offers two pieces of evidence

that salient differences across languages have resulted in more control over definite usage in English.

References

- Abbott, B. (2000). Definiteness and indefiniteness. In L.R. Horn & G. Ward, (Eds.), *Handbook of pragmatics* (pp.122-149). London: Blackwell.
- Bachman, L.F. (1995). *Fundamental considerations in language testing* (3rd ed.), Hong Kong Oxford University Press.
- Brown, H.D. (1987). *Principles of language learning and teaching*. Englewood Cliffs, New Jersey: Prentice-Hall.
- Celce-Murcia, M. & Larsen-Freeman, D. (1999). *The grammar book: An ESL teacher course*. Boston: Heinle and Heinle.
- Chesterman, A. (2005). *On definiteness*. Cambridge: Cambridge University Press.
- Cook, V. (1992). Evidence for multicompetence. *Language Learning*, 42(4), 557-91.
- Epstein, L. (1996). Viewpoint and the definite article. In A.E. Goldberg (Ed.), *Conceptual structure, discourse and language* (pp. 99-112). Stanford: CSLI Publications.
- Farhadi, H., Jafarpur, P. & Birjandi, P. (2001). *Testing language skills: From theory to practice*. Tehran: SAMT.
- Grasserie, R. de la (1895). De l'article. *Memoires de la Societe de Linguistique de Paris IX*.
- Gundel, J.K. (2001). Pronouns without explicit antecedents. Presented at DAARC – 4, Lisbon, Portugal.
- Hawkins, J.A. (1978). *Definiteness and indefiniteness*. London: Croom Helm.
- Kecskes, I. (1998). The state of L₁ knowledge in foreign language learners. *Word*, 49(3), 321-340.
- Kempson, R. M. (1975). *Presupposition and the delimitation of semantics*. Cambridge: Cambridge University Press.
- Kempson, R. M. (1988). Grammar and conversational principles. In Frederick J. Newmeyer (Ed.), *Linguistics: The Cambridge Survey, vol. II: Linguistic theory: extensions and implications* (pp. 139-63). Cambridge: Cambridge University Press.
- Lambrech, K. (1994). *Information structure and sentence form: Topic, focus and the mental representations of discourse referents*. Cambridge: Cambridge University press.
- Liu, D. and Gleason, J.I. (2002). Acquisition of the article “the” by nonnative speakers of English: An analysis of four nongeneric uses. *Studies in Second Language Acquisition*, 24, 1-26.

- Loebner, S. (1987). Definites. *Journal of Semantics*, 4, 279- 326.
- Lyons, C. (1980). The meaning of the English definite article. In J. V. Auwera (Ed.), *The semantics of determiners* (pp. 81-95). London: Croom Helm.
- Lyons, C. (1999). Definiteness. Cambridge: Cambridge University Press.
- Maalej, Z. (1997). On the misuse of determination in Arab students' written production. *English Teaching Forum*, 29(3), 21-25.
- Master, P. (1988). Teaching the English article system (Part I: countable/uncountable and indefinite/definite distinctions). *English Teaching Forum*, 26(2), 2-7.
- Master, P. (2002). Information structure and English article pedagogy. *System*, 30, 331-348.
- Pienemann, M. (1998). *Language processing and second language development*. Amsterdam: John Benjamins.
- Poesio, M. & R. Vieira (1998). A corpus-based investigation of definite description use. *Computational Linguistics*, 24(2), 183- 216.
- Prince, E.F.(1992). The ZPG letter: Subjects, definiteness, and information status. In S. Thompson & W. Mann (Eds.), *Discourse description: Diverse analyses*, (pp. 295- 325). Amsterdam: John Benjamins.
- Ring Low, M. (2003).The hidden path of semantic content within pragmatic context. *Language and Linguistics*, 15, 273- 295.
- Strawson, P. F. (1968). On referring. In G. H. R. Parkinson (Ed.), *The theory of meaning* (pp. 61-85). Oxford: Oxford University Press.