

textbook of first year elementary school. The rationale was that all the participants were familiar with those words. English words were selected from among 3000 words in the vocabulary list of *Oxford Progressive English Course*, volume one for low intermediate, volume two for high intermediate, and volume three for advanced groups. After screening out the unwanted words, there were 188 words for the low intermediate, 103 words for the high intermediate, 100 words for the advanced groups, and 200 Persian words. Rating scales were prepared for each list of vocabulary. An appropriate sample of examinees from each level rated the vocabulary items in each list. The examinees rated the English words with respect to their familiarity with the meaning and usage of the words. They rated Persian words according to their frequency in daily conversations. The words with 90% scores were then selected to be used in sentences. There were 137 words for the low intermediate, 76 words for the high intermediate, 70 words for the advanced groups, and 68 Persian words.

Sentences. After the selection of the vocabulary, sentences were made. The last word of each sentence was missing and the sentence was to be completed with the appropriate word by the participants. For example, in "A dog is an a _____", the word 'animal' would complete the sentence. In Persian sentences, the intended word was not the last word of the sentence, but one word before the last since the sentences are normally ended with a verb in Persian, and our intended word in each of the English and Persian sentences was a noun. To limit the choice of the possible target words, while constructing the preliminary sentences, each

used in the experiment; 24 Persian words for the Persian unilingual (L1-L1) condition, 72 English words for the three levels of L2 knowledge, and 72 Persian translations of the English words.

The most important requirement for generating a word is the knowledge of that word. Consequently, English words were to be within the limits of the examinees L2 knowledge. Frequency is not an acceptable criterion in this regard; that is, more frequently used words by native speakers of English are neither necessarily the ones first learned, nor the ones more frequently used by Persian speakers. The vocabulary, therefore, was selected from Hornby's *Oxford Progressive English Course* (1967), which is among the books used for teaching English to Iranian students.

Some requirements were observed in selecting the vocabulary. They were nouns. They had no more than three syllables; this was to nullify the effect of the word length as, "the memory span for a sequence of long words (e.g. UNIVERSITY, TEMPERATURE,...) is lower than the span for a sequence of short words (e.g. DECK, LIST,...)" (Murray, 1995, p.97). They were not compound nouns. They were not among English loan words used in Persian. The Persian translations were acoustically distinct from them, and followed the requirements for word length too. Moreover, they were not compound nouns. The Persian translations of English words were not the same as the Persian words used in L1-L1 condition. The Persian translations were checked by 3 bilingual judges for their accuracy. For the L1-L1 condition, all the nouns having the above requirements were selected from the Persian reading

Method

Participants

The participants were 144 Iranian Persian-English bilinguals. They were selected from a pool composed of approximately 400 TEFL undergraduates in Esfahan University who had participated in a standardized placement test (Kassaiian, 1997). The participants were assigned to 12 groups irrespective of their sex and age; however, 73 men and 71 women who were 18-30 years old took part.

All the participants were measured for their intellectual capacity, and an equal number of candidates with high, intermediate, or low intellectual capacity were placed in each of the 12 groups. The Raven test (Raven et al., 1988) was used for this purpose as it had previously been given to Iranian students, and its reliability and validity had been confirmed (Molavi, 1994).

Materials

A hundred and sixty-eight sentences were used for the elicitation task. The Persian version included 24 sentences. The English version included 3 lists, each consisting of 24 sentences for the 3 levels of L2 knowledge. In bilingual conditions, Persian translations of sentences were also used.

Words. The nature of the experiment was such that the sentences were to be read or completed with the aid of certain words. Therefore, the choice of vocabulary was a preliminary requirement.

A hundred and sixty eight Persian and English target words were

participants were balanced Spanish-English bilinguals, but the nature of the procedure may have encouraged participants to generate translation in their read-English-and-Spanish-translation conditions. Participants viewed the Spanish word on a screen and subsequently read the English word in a booklet. Thus, participants might have generated the English translations prior to actually reading the English word, making the read condition similar to the translation condition and masking any potential GEs. In the present study an attempt was made to reduce the likelihood of spontaneous translation in the read condition by presenting the translation simultaneously.

In this study, we attempted to find out (a) if L2 learners produce GE at sentence level, (b) the possibility of the effect of proficiency on GE, (c) if the degree of GE was the same in unilingual and bilingual conditions, and finally (d) if the degree of intelligence affects GE. The hypotheses were that (a) L2 learners would produce GE at sentence level, since it had been observed before in both unilingual and bilingual conditions (see above), (b) proficiency would affect GE, as it had been reported before (Jourabchi, 1994), (c) the degree of GE would not be the same in unilingual and bilingual conditions, since bilingual situations involve language switching which takes additional mental occupation (Macnamara and Kushmir, 1971), and (d) intelligence might affect GE, since generation is a kind of process that involves problem solving ability which is a component of intelligence. In order to check the results two types of tests; namely, recall and recognition, were used for measurement.

Related to the topic of the present research are: Anderson, Goldberg, & Hidde (1971), Kane & Anderson (1978), and Graf (1982) who observed a GE with meaningful sentences in unilingual conditions; Slamecka & Katsaiti (1987), who reported no GE in the dual language learning condition with Greek and English language combinations at the word level; O'Neil, Roy, & Tremblay (1993), who observed GE at the word level with relatively balanced French-English bilinguals; and Jourabchi (1994), who reported possible effect of L2 knowledge on GE at the word level.

In order to examine the possibility of GE in a bilingual situation, language proficiency and translation are two issues worth considering. Slamecka & Katsaiti (1987, experiments 1 & 2) failed to obtain GE in a bilingual situation where the level of second language (L2) knowledge was a decisive factor. They used Greek-English bilinguals who "were sufficiently fluent in both the Greek and English languages" (p. 591). No additional explanation was provided as to the degree of the participants' functional bilingualism or the relative dominance of one or the other of their two languages. In fact Slamecka personally stated (May 14, 1993) that "The Greek-descent subjects of the 1987 experiments were not tested for their language proficiency in either of the Greek or English languages" (Jourabchi, 1994, p.175). The present study employed Persian-English bilinguals whose L2 abilities were checked for performing the expected tasks.

The issue of translation can be discussed with regards to a study performed by Durgunoglu & Roediger (1987). In this study the

Introduction

From a cognitive perspective, one of the most frequently mentioned variables involved in learning is known to be memory. Learning depends on memory for its permanency and memory would have no content if learning was not taking place (Gross, 1989). One of the phenomenon concerning memory enhancement is generation effect (GE). GE refers to the finding that in a memory experiment, a self-generated word is better remembered than one that is externally presented (Slamecka & Graf, 1978; Snodgrass & Kinjo, 1998). In other words, an item which has been initially produced by means of a subject's own mental effort is significantly better recalled than if that same item had been originally presented for study in its entirety (Slamecka & Katsaiti, 1987).

GE has been the subject of numerous experimental efforts with a variety of subjects and experimental techniques. GE has been investigated, to check associative learning (Moshfeghi and Sharifian, 1998a), with pictures (Peynircioglu, 1989; Kinjo & Snodgrass,2000), multiplication sums (Gardiner & Rowley, 1984), letter bigrams (Gardiner & Hampton, 1985), words (Slamecka & Graf, 1978), sentences (Anderson, Goldberg, & Hidde, 1971), and texts (Einstein, McDaniel, Bowers, & Strevens, 1984; Sharifian,2001a) to name but a few.

GE has found its application recently even in rehabilitation medicine for maximizing learning in multiple sclerosis (Chiaravalloti and Deluca , 2002) and hypermnesia- increased recall over tests- (Mulligan, 2002).

A Sentence-Based Generation Effect in Bilingual Recognition and Recall

S.A. Miremadi*

Z.Kassaian*

Abstract

To investigate the presence of generation effect (GE) at sentence level, 144 bilinguals were selected as participants. They were examined at 3 levels of language proficiency, both unilingual and bilingual conditions. Recall and recognition tests of memory were used for measurement of the retained items. To measure the correlation between intelligence and GE, all the participants were tested regarding their intelligence. Analyzing the data, it was found that GE existed at the 3 levels of language proficiency, namely, advanced, high intermediate, and low intermediate levels. GE was evident at both unilingual and bilingual conditions while the degree of exhibition was higher at unilingual condition. The degree of second language (L2) knowledge did not change the degree of GE significantly. The recognition test manifested the GE more strongly than the test of recall, and finally correlation was found between intelligence and GE.

Key Words: generation – language proficiency– recognition tests
– unilingual condition– test of recall.

* Allame Tabatabaie University.

• Isfahan University.

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According to the tables camels, cows, donkeys, hens, and snakes are more frequent in Persian (2,8,5,5, 2) than in English (20,21,51,18,30).

As these two tables demonstrate animal idioms in both languages have got more negative connotations, and the distribution of animals in terms of their semantic loads is almost similar in both English (35,188,33) and in Persian(46,176,33).

According to these tables, in English, horses (12) and lions (7) are used more positively, and dogs in English((43) and donkeys in Persian(43) are used more negatively; and also dogs and donkeys are most frequent in both English (54) and in Persian(51).

V. Discussion

As the results of this study show, due to the cultural differences in both languages, and the importance that both cultures attach to the same animals, they are different on the part of frequency, for example, since cows and donkeys in Persian, and horses and dogs in English are culturally important, their frequencies are also different, cows and donkeys are used more in Persian than in English language and dogs are more frequent in English.

What is noticeable here is that both languages have got the same distribution in terms of being negative, positive or neutral and they view and use animals in their idioms and proverbs negatively. Although the frequency of animals ,say, pigs in English is higher, in both languages pigs have got negative connotation.

Therefore, it is fair to say that generalities override idiosyncrasies and it can support not linguistic determinism but linguistic relativity.

Table 2: Frequency and connotation of animal idioms and proverbs in Persian

Animals	Positive	Negative	Neutral	total
Bear	1	6	1	8
Camel	3	14	3	20
Cat	3	19	3	25
Cow	6	13	2	21
Dog	3	30	2	35
Donkey	4	43	4	51
Elephant	3	-	1	4
Fish	4	2	2	8
Fox	-	5	-	5
Goat	1	4	5	10
Hen	4	4	2	10
Horse	5	11	2	8
Lion	7	1	-	18
Mouse	1	9	1	11
Pig	-	5	-	5
Snake	1	25	4	30
Wolf	-	12	1	13
Total	46	176	33	255

As the table 1 and 2 represent cats, dogs, horses, and pigs are more frequent in English (40,54,45, 12) than in Persian (25,35,10,5).

Table 1: Frequency and connotation of animal idioms and proverbs in English

Animals	Positive	Negative	Neutral	total
Bear	1	5	3	3
Camel	-	2	-	2
Cat	3	33	4	40
Cow	1	6	1	8
Dog	5	43	6	54
Donkey	-	3	2	5
Elephant	4	1	2	7
Fish	3	25	2	30
Fox	-	7	-	7
Goat	-	5	2	7
Hen	1	3	1	5
Horse	12	22	5	45
Lion	5	1	1	7
Mouse	-	10	-	10
Pig	-	10	2	12
Snake	-	2	-	2
Wolf	-	10	2	12
Total	35	188	33	256

English(2002)and the Persian ones were selected from Moeen. It was decided to select only up-to-date proverbs and idioms which are common in both English and Persian and the archaic expressions were avoided.

Four native speakers in both English and Persian were asked to judge the semantic loads of these expressions, to determine which one is positive, negative ,or neutral. Then the results were tabulated and analyzed.

IV. Results

As tables 1 and 2 show the elephants, bears, foxes, goats, lions, mice, and wolves have got almost the same frequency and their semantic loads' distributions in both English (7,9,7,7,7,10,12) andin Persian (4,8,5,10,8,11,13) are similar.

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رتال جامع علوم انسانی

Kay and Kempton's language study (1984) found support for linguistic relativity. They found that language is a part of cognition .

Peterson and Siegal's "Sally doll"(1995)was not intended to test the Sapir-Whorf hypothesis specifically , but their findings support linguistic relativity in a population who at the time had not yet been considered for testing-deaf children. Their experiment with deaf children showed a difference in the constructed reality of deaf children with deaf parents and deaf children with hearing parents, especially in the realm of non-concrete items such as feelings and thoughts.

Some studies favor universalism over relativism in the realm of linguistic structure and function (Osgood, 1963;brown,1991).

These studies favor linguistic relativity not linguistic determinism but since in Iran, according to Islamic rules dogs and pigs are considered to be illegitimate to touch and nobody is allowed to eat their meat; and in the English culture, dogs are used as pets and sometimes as family members and people are allowed to eat pork, it was hypothesized that these two cultures might have different attitudes towards animals and it can be a strong support for the strong version of the Sapir-Whorf hypothesis.

If we accept the idea that idiomatic expressions and proverbial statements generally reflect the culture of the people using them, it was intended to test the strong version of the Sapir-Whorf hypothesis by analyzing the idioms and proverbs in terms of their frequency and connotation in both English and Persian languages.

Methodology

In this study, some animal idioms and proverbs in English have been selected from Oxford Dictionary of Current Idiomatic

we do not find there because they stare every observer in the face; on the contrary , the world is presented in a kaleidoscopic flux of impressions which has to be organized by our minds-and this means largely by the linguistic systems in our minds. We cut nature up organize it into concepts, and ascribe significance as we do, largely because we are parties to an agreement to organize it in this way-an agreement that holds throughout our speech community and is codified in the patterns of our language. The agreement is, of course an implicit and unstated one, but its terms are absolutely obligatory ; we cannot talk at all except by subscribing to the organization and classification of data which the agreement decrees.”

Both Sapir and Whorf agreed that it is our culture that determines our language, which in turn determines the way that we categorize our thoughts about the world and our experiences in it.

There have been several studies performed to support the Sapir-Whorf hypothesis, they support the linguistic relativism not determinism. In 1954, Brown and Lenneberg tested for color codability, or how speakers of one language categorize the color spectrum and how it affects their recognition of those colors. Their finding was clearly in support of the limiting influence of linguistic categories on cognition.

Lucy and shweder's color memory test (1979) supports the linguistic relativity hypothesis. If a language has terms for discriminating between color then actual discrimination of those colors will be affected. They found that influences on color recognition memory is mediated exclusively by basic color terms-a language factor.

the “real world” is to a large extent unconsciously built up on the language habits of the group. No two languages are ever sufficiently similar to be considered as representing the same social reality. The worlds in which different societies live are distinct worlds, not merely the same world with different labels attached...Even comparatively simple acts of perception are very much more at the mercy of the social patterns called words than we might supposeWe see and hear and otherwise experience very largely as we do because the language habits of our community predispose certain choices of interpretation.

As the underlined portions show Sapir used firm language to describe this connection between language and thought .To Sapir, the individual is unconscious to this connection and subject to it without choice.

III. Linguistic Relativity

Linguistic relativity states that all language we use to some extent influences and affects the way in which we view and think about the world around us. Benjamin Lee Whorf, Sapir's student devised the weaker theory of linguistic relativity: "We are thus introduced to a new principle of relativity, which holds that all observers are not led the same physical evidence to the same picture of the universe"He also supported, at times, the stronger linguistic determinism. To Whorf, this connection between language and thought was also an obligation not a choice.

From "Science and Linguistics"

"We dissect nature along lines laid down by our native languages. The categories and types that we isolate from the world of phenomena

Sapir-Whorf hypothesis. The Sapir-Whorf Hypothesis is in effect two propositions, which in a very basic form could perhaps be summed up as firstly linguistic determinism(language determines thought),and secondly , linguistic relativity(difference in language equals difference in thought).

II. Linguistic Determinism

Linguistic determinism refers to the idea that the language we use to some extent determines the way in which we view and think about the world. It was Wilhelm von Humboldt who first put forward the idea and Sapir expanded on it.

Edward Sapir studied the research of Wilhelm von Humboldt and about one hundred years before Sapir published his linguistic theories, Humboldt wrote in *Gesammelte Werke* a strong version of linguistic determinism, "Man lives in the world about him principally, indeed exclusively, as language presents it to him." Humboldt viewed thought as being impossible without language, language as completely determining thought.

Although Sapir did not always support this firm hypothesis, his writings state that there is clearly a connection between language and thought from "The states of Linguistics as a science"(1929).

Human beings do not live in the objective world alone, nor alone in the world of social activity as ordinarily understood, but are very much at the mercy of the particular language which has become the medium of expression in their society. It is quite an illusion to imagine one adjusts to reality essentially without the use of language and that language is merely an incidental means of solving specific problems of communication or reflection: the fact of the matter is that

Sapir-Whorf Hypothesis and English & Persian Idioms and Proverbs

Mansoor Fahim*

Reza Pishghadam*

Abstract

This article examines the strong version of the Sapir-Whorf hypothesis to see whether language truly determines thought. Since Idioms and proverbs represent culture, animal idioms and proverbs in both English and Persian were collected from authoritative dictionaries, and, native speakers were asked to determine the connotation of each one to see whether it is positive, negative or neutral. It was found that the differences between these two languages on the part of idioms and proverbs are negligible and it is a strong support for the weak version of the Sapir-Whorf hypothesis.

Key Terms: Sapir-Whorf hypothesis– Linguistic relativism
–Linguistic determinism– Proverbs

I. Introduction

How does the structure of one's language affect one's thought processes? Does the structure of the language one speaks affect one's perceptions of the world in a way that would be different if one happened to speak another language instead? There have been versions of this question, the most recent and influential one is the

* Allameh Tabatabaei University

• Ph.D.Candidate, Allameh Tabatabaei University