Time-moving Metaphors and Ego-moving Metaphors: Which Is Better Comprehended by Taiwanese?[*]

May, Hsin-mei Huang & Shelley, Ching-yu Hsieh

Department /Graduate Institute of Foreign Languages and Literature, National Cheng Kung University,

Taxue Road. 1, 70101 Tainan, Taiwan

plum0910@yahoo.com.tw, shelley@mail.ncku.edu.tw

Abstract. This is a semantic pilot study which concentrates on how people in Taiwan process the temporal metaphors, ego-moving metaphor and time-moving metaphor. Motivated by the research of Gentner, Imai, and Boroditsky (2002) in which the English native speakers comprehend ego-moving metaphors faster than time-moving metaphors, the present study attempts to reexamine whether the faster reaction to ego-moving metaphors is shared by both the Chinese native speakers and EFL learners. To achieve the goals, 25 Chinese/English bilinguals are invited to be examined via the16 Chinese and 16 English test sentences. The recordings of their accuracy on each item are served as the databases used to compare with the study of Gentner, Imai, and Boroditsky (2002). The two finding presented here are: (1) when the subjects tested in their native language, Chinese, they process ego-moving metaphors better. (2) when tested in the foreign language, English, they conceptualize time-moving metaphors much better.

Keywords: metaphors, time-moving metaphor, ego-moving metaphor, EFL

1. Introduction

This is a semantic study which attempts to explore how Taiwanese process time metaphors. According to Shuell (1990: 102), "If a picture is worth 1,000 words, a metaphor is worth 1,000 pictures!" By breaking literal meanings, metaphors create thousands of possibilities. The way we structure the thousand pictures relies on conceptual metaphor. Conceptual metaphor is people's underlying cognitive level as the bridge between language and thought. By

---

assimilating the two different domains, conceptual metaphor specifies the concrete idea into abstract entity. In general, conceptual metaphor is the surface structures which make metaphors understandable. (Lakoff and Johnnson, 1980; Goddard, 1998; McGlone, 2007; Charteris-Black & Ennis, 2001). As Lakoff (1993:228) claims, "We do not have detectors for time. Thus, it makes good biological sense that time should be understood in terms of things and motion." That is, the comprehension of the abstract time understood via space is biologically determined.

The two space → time metaphors under examination are time-moving and ego-moving metaphors. Based on the study of Gentner, Imai, and Boroditsky (2002) in which English native speakers conceptualize ego-moving metaphor faster, two research goals are proposed: Chinese native speakers and EFL learners process ego-moving metaphors better. In order to answer the two research questions, this paper is organized as follows, (1) Introduction, (2) the theoretical framework on temporal metaphors, (3) the methodology, (4) results, (5) discussion, and (6) conclusions.

2. Literature review

This study examines how English-Chinese bilinguals in Taiwan structure temporal metaphors. The introduction of the two time metaphors, the different perspective that Chinese and English speakers hold, and the study conducted by Gentner, Imai, and Boroditsky (2002) are covered.

2.1. Sequencing time domain

The two space → time metaphoric systems are ego-moving and time-moving metaphor. The primary difference is that they posit different assignments of front and back in a time line.
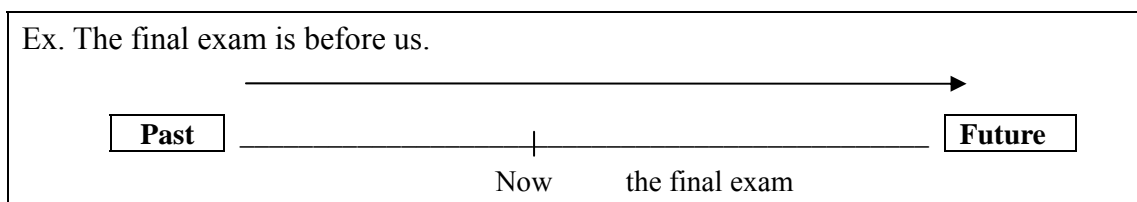
Time-moving metaphor

Time-moving metaphors identify the events temporally ordered with another in the time line. In time-moving metaphors, time can be conceived of as preceding and following one another in which time flows from the future via the ego, the point of reference, to the past (Li, 2005; Ahrens and Huang, 2002). In this metaphor, the future is in the back and the past is in the front (Gentner, Imai, and Boroditsky, 2002: 539). For example, 'The final exam is before Thursday' in which 'before', a space term, indicates 'the final exam' is proceeding 'Thursday'. Therefore, the final exam is in the relative the past and Thursday in the relative future. (see Figure 1.)

Ex. The final exam is before Thursday.
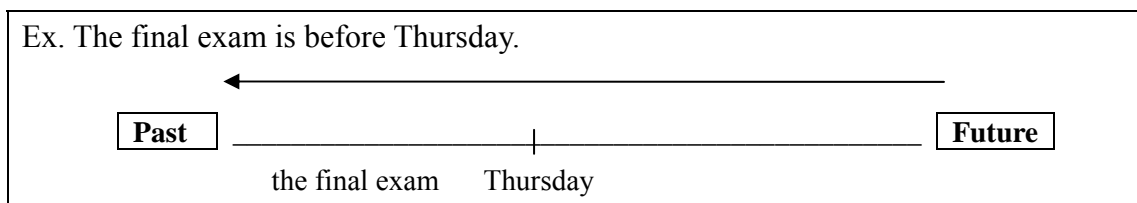
Figure 1. An example of time-moving metaphor

Ego-moving metaphor

Ego-moving metaphor recognizes the event in the time order with the ego/observer. It attributes motion over a landscape to an entity. Li (2005: 16-17) proposes that "the observer comes from the past and moves via the present to into the future, while time as the reference ground remains stationary." Indicated by this metaphor, front is assigned to the future and back to the past (Gentner, Imai, and Boroditsky, 2002: 539). For instance, 'The final exam is before us' in which the space "before" specifies the linear time relationship of "us" as the present time and "the final exam" as the future event. (see Figure 2)

Figure 2. Ego-moving metaphor

2.2. Cultural difference regarding the orientation of the ego

Culture influences people's understanding about the world, as Kövecses (2006: 135) indicates, 'our understandings are mental representations structured by cultural models or frames.' In English, the ego always takes a front-to-the-future orientation. However, in Chinese, ego has dual orientations: a front-to-the-future orientation and a front-to-the-past orientation, while the latter is predominant in Chinese. (Li, 2005: 40). For instance, 'The best is before you.' means that the best is waiting in the 'future.' However, for the Chinese speakers, *qian suo wei jian* 前所未見 'it has never been seen before' refers to the event that has never been seen in the past.

2.3. Gentner, Imai, and Boroditsky's (2002) study on the temporal metaphors

Their research on this topic provides the present study with a theoretical basis. The three experiments conducted show that the English native speakers, apart from relying on an ego-moving framework to interpret time, conceptualize ego-moving metaphor faster than time-moving metaphor. Inspired by their research, the present study aims to reexamine whether it is shared by Chinese native speakers and the EFL learners.

3. Methodology

The present study is conducted to explore how people in Taiwan, who have Chinese as the L1 and English as their foreign language, process time-moving and ego-moving metaphors.

Participants & Materials

The participants are twenty-five English and Chinese bilinguals who are female aged at 31.7. They are chosen, for they have no problem conceptualizing English and Chinese metaphors. Thirty-two test sentences are designed to examine the participants' accuracy. Sixteen of them are in Chinese in which nine used the time-moving metaphors and the others used ego-moving metaphors. As for the other sixteen, they are mostly taken from the study of Gentner, Imai, and Boroditsky (2002) in which eight used the time-moving metaphors and the others used ego-moving metaphors. For example, Christmas is six days ahead of New Year's Day.

Procedures

After the participants read the sample in Chinese and English, they are tested by Chinese test sentences and followed by the English sentences. They see each sentence one at a time by indicating the event 'I will see you' happened in the past or future relative to the reference (4 o'clock). (see Figure 3.) Totally, there are thirty-two such blocks. The arrangement of all the testing sentences is randomized, so the subjects will not notice the two metaphorical types.
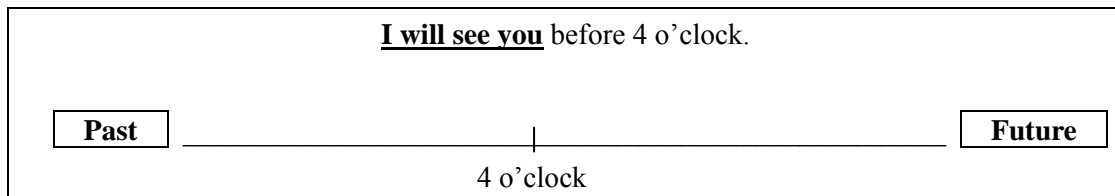
I will see you before 4 o'clock.
Past _____⊥_____ **Future**
4 o'clock

Figure 3. A sample of the English testing sentence.

4. Results

This section is divided into two parts to examine whether the faster reaction to ego-moving metaphors is a shared value for both native speakers and EFL learners.

4.1. Chinese version

The results are summarized in the following figures to verify whether ego-moving metaphors in Chinese are better processed by its native speakers.

The distribution of the participants' accuracy in the two metaphors in Chinese

The following two figures show the distributions of the participants in Chinese time-moving metaphors and Chinese ego-moving metaphors respectively.
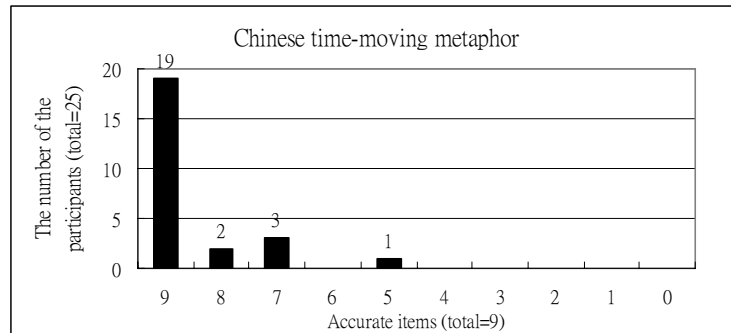

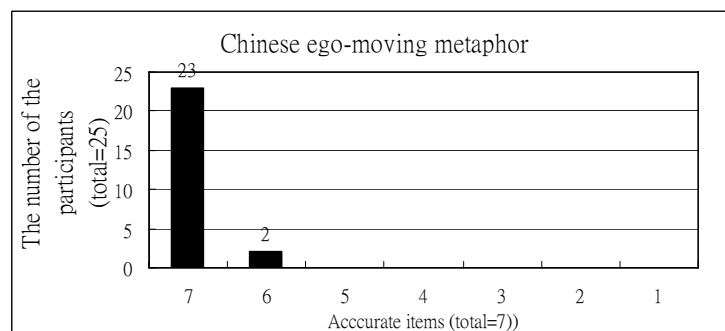**Figure 4. The distribution of the participants in Chinese time-moving metaphors**

Figure 5. The distribution of the participants in Chinese ego-moving metaphors

From Figure 4, nineteen participants conceptualize all the time-moving metaphors test sentences, accurately; two participants process eight time-moving metaphors accurately, and so on. As shown in Figure 5, twenty-three participants process the seven ego-moving metaphors correctly and the other two process six ego-moving metaphors correctly.

The figures above indicate that ego-moving metaphors are better processed by its Chinese native speakers, so it is consistent with Gentner, Imai, and Boroditsky's (2002) study in which English native speakers process ego-moving metaphors easier.

4.2.English data

This section shows the analysis of the English data by which the easier metaphor for its foreign language learners is presented.

The distribution of the participants' accuracy to the two metaphors in English

Figure 6 and 7 show the distributions of the participants in English time-moving metaphors and English ego-moving metaphors respectively.
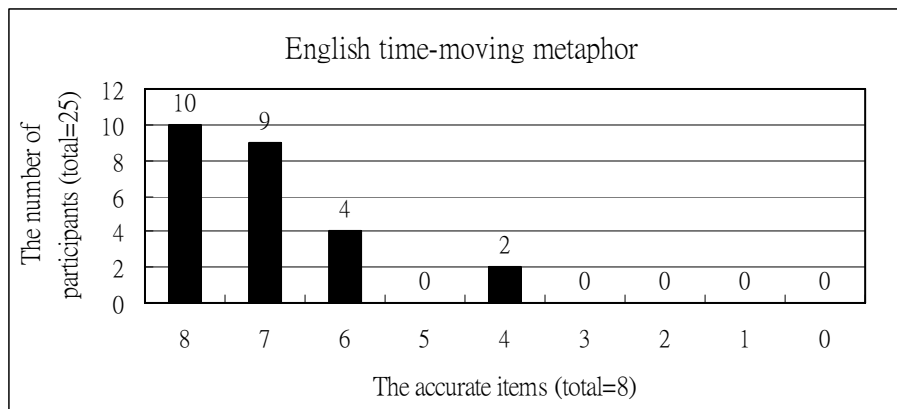
Figure 6. The distribution of the participants in English time-moving metaphors
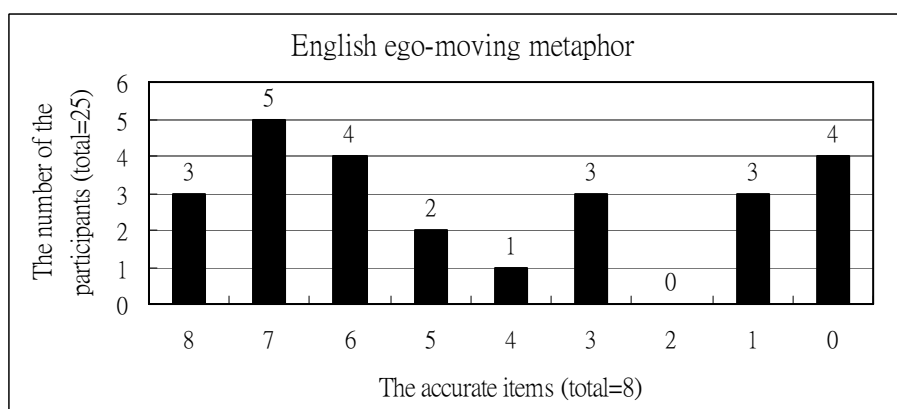
Figure 7. The distribution of the participants in English ego-moving metaphors

From Figure 6, ten participants react accurately to all the time-moving testing sentences, nine participants accurately to seven time-moving metaphors, and so on. As shown in Figure 7, three participants respond accurately to all the ego-moving testing sentences, five accurately to seven ego-moving metaphors, and so forth. Surprisingly, four of the participants entirely fail to process any of the test sentences.

From the two figures presented above, the comprehension of the two metaphors in Chinese version makes a great difference compared with the Chinese version. The participants' processing suggests that English ego-moving metaphors are much harder for its EFL learners. Surprisingly, it contradicts that of Gentner, Imai, and Boroditsky (2002) since the participants process English time-moving metaphors much better.

4   Discussion

This study is compared with that of Gentner, Imai, and Boroditsky (2002). Reduplicating theirs, Chinese native speakers process Chinese ego-moving metaphors better. However, what is contradictory is that EFL learners have a quite hard time processing English ego-moving metaphors.

5.1 Ego-moving metaphors in Chinese are easier for its native speakers

The easiness of Chinese ego-moving metaphors has threefold meanings: people are egocentric, ego-moving metaphors are relative easier, and time-moving metaphors contradict our general direction of time flow.

People's egocentricity

Our body is the reference for describing the world, including time. "The predominance of egocentric reference directions in spatial memory" implies "people's tendency to use egocentric reference systems to code information about their environment" (Waller, Lippa, and Richardson, 2007: 3). Supported by Ahrens and Huang (2002: 491), "we human beings use our body to conceptualize the outside world." Since the way we process time is influenced by egocentricity, ego-moving metaphors appear to be natural and therefore easier.

Ego-moving metaphors as the easier metaphorical type

Based on Gentner, Imai, and Boroditsky (2002:559), ego-moving metaphors identify the time relation between the observer and the event so, it "contains only two points on the time line: an event and an observer" whereas time-moving metaphors specify the time relation between two events "with the ego as the third point." The two-term relation of ego-moving metaphors, which not only involves the ego as the center but also involves only two points in the time line, decreases the degree of processing difficulty.

The contradictory direction of time flow in time-moving metaphor

Li (2005: 15) claims "time that flows from the future to the past is diametrically opposed to our entrenched belief in the direction of the flow of time." The "wrong" direction of time flowing contradicts and therefore interferes with our perception, resulting in increasing the processing difficulty.

5.2 Time-moving in English are easier for its EFL learners

The difficulty of ego-moving metaphors is attributed to two factors: the limited exposure to the target language, and the interference of the participants' first language.

EFL learners' limited exposure to ego-moving metaphors

Learning takes place due to "a structure in semantic memory that specifies the general or expected arrangement of a body of information" (Carroll, 2002:171). People's schemata, the mental representation of a typical instance, are "used in discourse processing to predict and make sense of the particular instance" (Cook, 1994:11).The participants' obscure schemata of ego-moving metaphors makes them fail to fail to structure ego-moving metaphors.

The interference from the participants' first language

Boroditsky (2001: 18) claims that "one's native language appears to exert a strong influence over how one thinks about abstract domains like time." Contrastive Analysis Hypothesis claims that when L2 is learned, the negative transfers from learners' L1 will slow down the speed (Lightbrown and Spada, 2004: 35). English and Chinese as two different languages have different interpretations of time. The differences make the participants confused so that they process ego-moving metaphors with difficulty.

6   Conclusion

This study has two main findings. First, Chinese native speakers, in line with Gentner, Imai, and Boroditsky (2002), process Chinese ego-moving metaphors better, for they are the natural expressions which accord to people's cognitive process. However, inconsistent with Gentner, Imai, and Boroditsky (2002), the Taiwanese, as the EFL learners, process English ego-moving metaphors with great difficulty. This phenomenon points out that the fostering of a foreign language involves the factors, like a great amount of language input and the minimization of the negative transfer from their first language.

References

Ahrens, K. and C. R. Huang. 2002. TIME PASSING IS MOTION. *LANGUAGE AND LINGUISTICS*, 3(3), 491-519.

Boroditsky, L. 2001. Does Language Shape Thought?: Mandarin and English Speakers' Conceptions of Time. *Cognitive Psychology*, 43, 1–22.

Carroll, D. W. 2004. *Psychology of Languag*e, Fourth Edition. United States of America: Wadsworth.

Charteris-Black, J., and T. Ennis. 2001. A Comparative Study of Metaphor in Spanish and English Financial reporting. *English for Specific Purposes*, 20, 249-266.

Cook, G. 1994. *Discourse and literature: The Interplay of Form and Mind.*. Oxford: Oxford University Press.

Creem-Regehr, S. H., J. A. Neil and H. J. Yeh. 2007. Neural Correlates of Two Imagined Egocentric Transformations. *NeuroImage*, 35, 916–927.

Gaddard, C. 1998. *Semantic Analysis*. New York: Oxford University Press.

Gentner, D., M. Imai and L. Boroditsky. 2002. As Time Goes By: Evidence for Two Systems in Processing Space→ Space Metaphors. *LANGUAGE AND COGNITIVE PROCESSES*, 17(5), 537-565.

Kövecses, Z. 2006. *Language, Mind and Culture: a Practical Introduction*. New York: Oxford University Press.

Lakoff, G. and M. Johnson. 1980. *Metaphors We live By.* Chicago: University of Chicago.

Lakoff, G. 1993. The Contemporary Theory of Metaphor. *Ortony. Andre ed., Metaphor and Thought*, Second Edition. Cambridge: Cambridge University Press.

Li, J. E. 2005. *Ying Han 'Qian/Hou' Shi Jian Gai Nian Yin Yu Di Ren Zhi Yan Jiu (The Cognitive Approach of Chinese and English Temporal metaphors on before and after).* Master thesis. Hua Zhong Normal University.

Lightbown, P. M. and N. Spade. 2004. *How Language Are Learned*, Ninth Edition. New York: Oxford university press.

McGlone, S. T. 2007. What Is The explanatory Value of a Conceptual Metaphor? *Language & Communication*, 27, 109-126.

Radden, G. 2003. The Metaphor TIME AS SPACE Across Languages. *Zeitschrift für Interkulturellen Fremdsprachenunterricht*, 8(2/3), 1-14.

Shuell, T. J. 1990. Teaching and Learning as Problem Solving. *Theory into Practice*, 29, 102-108.

Waller, D., Y. Lippa and A. Richardson. 2007. Isolating Observer-based Reference Directions. *Cognition*, 1, 1-27.