Taiwan Journal of TESOL
Vol. 12.2, 41-85, 2015

"ON CLOUD NINE" AND "ON ALL FOURS": WHICH IS MORE TRANSPARENT? ELEMENTS IN EFL LEARNERS' TRANSPARENCY ASSUMPTIONS

Crystal Jia-yi Lin

ABSTRACT

Idiom transparency refers to how speakers think the meaning of the individual words contributes to the figurative meaning of an idiom as a whole (Gibbs, Nayak, & Cutting, 1989). However, it is not clear how speakers or language learners form their assumptions about an idiom's transparency level. This study set out to discover whether there are factors that can affect EFL learners' transparency judgement. It compared four groups of students' transparency ratings of 18 number idioms. A total of 191 students participated in the study. For the first two groups, the students were asked to make transparency judgements with the meanings of the idioms provided in L2 and L1 respectively. For the third and fourth groups, the students were asked to engage in different activities before they made transparency judgements. For the third group, the students were asked to choose a number to complete the number idioms; while for the fourth group, the students had to choose a number idiom to complete the sentences. Results showed that translation did not help the students to relate the literal meanings of the idioms to their figurative meanings. However, asking students to choose an appropriate idiom to complete the sentences could significantly raise students' transparency ratings. A closer examination found that students' ratings could be related to the internal and external semantic compatibility of the idioms. The implication of the study is that translation is not always necessary in the instruction of idioms; however, guiding students to think about the relationships between words and concepts can help them connect the literal and figurative meanings of the idioms.

Key Words: idiom transparency, transparency intuitions, decomposability, number idioms, semantic compatibility

INTRODUCTION

On cloud nine and *on all fours*: Which of these two idioms is more transparent to EFL learners, and which is easier to comprehend? Although the two idioms have the same number of words and look similar, there may be a difference in their transparency level. The concept of idiom transparency originated from idiom decomposability, a term which Gibbs, Nayak, and Cutting (1989) referred to as how speakers think the meaning of the individual words contributes to the figurative meaning of an idiom as a whole. Cacciari and Levorato (1998) used the term *analysability* to describe the same concept and explained that it is the extent to which someone can perceive a link between the meaning of the component words and an idiom's overall figurative interpretation. A transparent idiom is an idiom whose component words contribute to its figurative meaning (Abel, 2003). For instance, the idiom *paddle your own canoe* can be considered transparent because "the figurative meaning of the idiom—to be independent and self-reliant—is a metaphorical extension of the literal meaning" (Nippold & Duthie, 2003, p. 789); the idiom's literal and figurative meanings are highly related. By contrast, the idiom *paint the town red* is opaque or less transparent because "the figurative meaning—to go out and celebrate—is unrelated to the literal meaning" (Nippold & Duthie, 2003, p. 789).

Generally speaking, there are two views about transparency intuitions: one holds that transparency intuitions are derived from "the explanation a language user thinks of to motivate the form of an idiom *after* learning its idiomatic meaning" (Skoufaki, 2009, p.20). The view is supported by Keysar and Bly (1995) and Malt and Eiter (2004). They argued that constituent words or conceptual metaphors could not determine transparency intuitions. Take the idiom *keep someone at arm's length* for example. Malt and Eiter (ibid.) argued that neither the constituent words nor the conceptual metaphor INTIMACY IS PHYSICAL CLOSENESS dictates that the figurative meaning of the idiom has to be "to avoid becoming connected with someone or something;" on the contrary, the idiom could mean "keeping someone nearby" (no farther away than an arm's length; never out of reach) (Malt & Eiter, 2004, p.897). The point they wanted to make is that transparency intuitions are not necessarily derived from the words and metaphors, but are derived *after* the conventional interpretation of the idiom is learned and an explanation is constructed to link the form and the meaning.

The other view about transparency intuitions, known as a hybrid view, supports the premise of the view that transparency intuitions are derived from the explanation a language user thinks of to motivate the form of an idiom after learning its idiomatic meaning, but adds that "one partly forms transparency intuitions by resorting to knowledge structures considered inherent in an idiom, such as conceptual metaphors,[1] metonymies,[2] and encyclopaedic knowledge[3]" (Skoufaki, 2009, p.21). Advocates of this view include Bortfeld (2002), Gibbs, Bogdanovich, Sykes, and Barr (1997), Gibbs and O'Brien (1990), and Skoufaki (2009). In Skoufaki's (2009) study, it was hypothesized that if participants use idiom inherent features to guess the meanings of idioms, there will be fewer different varieties of interpretations for high-transparency idioms than for low-transparency idioms, and her results showed that a significantly fewer variety of interpretations were given to high-transparency idioms, supporting the hybrid view of transparency intuitions. In Gibbs and O'Brien's (1990) study, it was found that L2 learners had similar images of idioms that exhibited a common theme. For instance, idioms expressing anger (e.g. *blow your stack*, *lose your cool*, and *flip your lid*) often prompted images of pressurized containers violently exploding, while idioms like *spill the beans* and *let the cat out of the bag* which denote revelation were often associated with images of things falling or being pumped out of hollow objects (Gibbs & O'Brien, 1990). And Bortfeld's (2002) study showed that L2 learners exercised their conceptual metaphoric knowledge when describing the images for the idioms tested. Nearly half of the time her subjects could correctly guess the meaning of an idiom without being told the definition for the idiom.

---

[1] Conceptual metaphor is the understanding of one idea in terms of perceptually based experiences. For example, the conceptual metaphor behind the utterances *you're wasting my time* or *He's living on borrowed time* is one that views time as money (Lakoff & Johnson, 1980).

[2] Metonymy is the use of one entity to refer to another that is related to it. For example, Mrs. Grundy frowns on *blue jeans.* Here, the term, *blue jeans,* stands for the wearing of blue jeans. *New windshield wipers* will satisfy him. In this case, the term, *new windshield wipers,* stands for the state of having new wipers (Lakoff & Johnson, 1980, p. 35).

[3] Knowledge which is associated with a word but which is not immediately relevant to linguistic structure is encyclopaedic knowledge (Kiefer, 1990). For example, if the core meaning of the lexical item book is a written or printed work of some length, then our knowledge about the shape of books (e.g. hardcover, paperback), or about their contents (fiction, scientific, crime, etc.) would belong to encyclopaedic knowledge (Kiefer, 1990).

Perhaps the two views can coexist if idiom representation in L2 lexicon is taken into account. According to Abel's (2003) Dual Idiom Representation Model, there are two levels of representation for idioms in L2 lexicon—a lexical level and a conceptual level—and at the lexical level, both constituent and idiom entries exist; non-decomposable idioms (i.e. opaque idioms) require an idiom entry, whereas decomposable idioms (i.e. transparent idioms) can be accessed through their individual components (i.e., constituent entries) and additionally through an idiom entry. Take the transparent idiom *paddle your own canoe* for example; since its literal and figurative meanings are highly related, it can be approached either through constituent entries, or, if one can recognize it as an idiom, through the idiom entry. However, for the low-transparency idiom *paint the town red*, if one does not already know the figurative meaning of the idiom, approaching the idiom through constituent entries does not necessarily help either. Now, for L2 learners, before an idiom entry is established, the figurative meaning of the idiom is less salient, that is, when they encounter a string of words, they understand the string of words as individual words rather than one single expression; they tend to decompose the idiom and consider the literal meaning of the component words first (Abel, 2003). And since it is difficult for them to derive the meaning of low-transparency idioms such as *paint the town red* from its constituents, it is naturally difficult to derive transparency intuitions before learning the meaning of the idiom, making sense of the claim that transparency intuitions are derived *after* idiomatic meaning is learned. By contrast, high-transparency idioms such as *paddle your own canoe* can be approached via constituent entries and/or via idiom entries at the lexical level, and when the idiom entry is not available, conceptual knowledge can be activated. Thus, for high-transparency idioms, even when the idiomatic meaning is not known, transparency intuitions could still be formed by resorting to knowledge stored either at the lexical level or at the conceptual level, supporting the hybrid view of transparency intuitions.

To explore the issue further, let's look at how EFL learners can resort to features inherent in idioms. As mentioned earlier, for EFL learners, before an idiom entry is established, they tend to decompose the idiom and consider the meaning of the component words first (Abel, 2003). To decompose the idiom, EFL learners can approach the individual words by activating knowledge stored at the lexical level or at the conceptual level. For instance, at the lexical level, EFL learners can resort to their

L1 lexicon through translation; according to Newmark (1991), translation is a means of expanding knowledge as well as consolidation. By translating an L2 word into L1, language learners are using what they already know to make sense of the new word. Drawing on prior knowledge facilitates comprehension of new concepts because prior knowledge is the framework by which we understand new information (Alexander-Shea, 2011; Anderson & Pearson, 1984; Willingham & Price, 2009). The more prior knowledge one retrieves, the easier it will be for one to grasp novel concepts, and translation provides an access to the vast information one possesses with their L1.

At the conceptual level, conceptual knowledge, a connected web of knowledge in which the linking relationships are as prominent as the discrete bits of information (Ben-Hur, 2006), allows EFL learners to understand ideas and recognize the applications of ideas in different situations (Bartsch, 1998). That is, when decomposing an idiom, this connected web of knowledge can help learners think about not only the subject matter represented by the words but also their relationship with other words. This is important in approaching idioms because as multiword expressions, idioms often appear as part of a text and are interconnected with other parts of the text. In *Idioms and Idiomaticity*, Fernando (1997) argued that despite being composite units, idioms function as single words in the linear language structure and can collocate with other words. For instance, the idiom *turn/put back the clock*, when used literally, would co-occur with time adverbials such as minutes or hours, but if used figuratively, would collocate with time adverbials such as years or centuries (p. 59). The relevance of this feature to idiom transparency is that if an idiom and its co-text are mutually compatible in meaning, the co-occurrence patterns or the collocations could help learners relate the literal meanings of the idioms to their figurative meanings.

Thus, the purpose of this study is to show that both the traditional and the hybrid views of idiom transparency can be valid by investigating factors that could influence EFL learners' opinions about idiom transparency. In particular, this study intends to address the question: What are the roles that translation and interrelationship between words play in idiom transparency? The hypotheses are as follows: (1) the students who were presented L1 translation of the idioms would rate the idioms more transparent than those who were presented meanings of the idioms in L2; (2) the students who were guided to think about the

relationship between the words in the idioms and the context would rate the idioms more transparent than who were not involved in such an activity; (3) The students' transparency ratings would go higher after explanations are provided to help them link the forms and the meanings.

Last but not least, in her book, Fernando (1997) used the term *collocability* to describe the collocational behaviour of idioms; however, in this study, the term *semantic compatibility* will be used, because the collocability of words actually comes from the compatibility of the concepts represented by the words, that is, how relevant they are to each other. For instance, in the above example, the collocability of the idiom *turn/put back the clock* comes from the compatibility of the concepts represented by the idiom and the time adverbials. The collocability of idioms with their context pointed out by Fernando will be called idioms' *external semantic compatibility*; in contrast, the collocability of idioms with their constituents will be called idioms' *internal semantic compatibility*. In addition, instead of transparency intuitions, which has the connotation of knowing something immediately without needing to think about it, *transparency assumptions* will be used in this study to describe EFL learners' opinions about the transparency level of idioms.

THE STUDY

The purpose of the study is to investigate factors that could influence EFL learners' opinions about an idiom's transparency level. Idioms with numbers were used in the study because idioms of this type could be rather irregular in terms of the numbers used. Numbers in idiomatic expressions often seem arbitrary to EFL learners because the origin that motivated the use of the numbers has long been forgotten, and it is difficult to deduce the use of certain numbers by conceptual metaphors. The inclusion of number idioms added more challenge to discover how EFL learners form their transparency judgement.

The study compared four groups of students' transparency ratings for 18 number idioms. For the first group of participants, the meanings of the idioms were provided in L2. For the second group, the meanings of the idioms were provided in L1. The purpose of this is to find out whether providing L1 translation would influence EFL learners' judgement on the idioms' transparency levels. If translation can help the participants from the second group understand the words and the idiomatic expressions, then their transparency ratings for the idioms will

probably be higher than the ratings given by the first group.

For the third and fourth groups, the participants were asked to engage in an activity before making a transparency judgement. The purpose of the activities is to guide the participants to consider the relationships between different words and concepts. For example, in group three, based on the meaning of the idioms, the participants were asked to choose a number to complete the number idioms; and for the participants in group four, they were required to choose an appropriate number idiom to complete sentences. The rationale behind the activity used in group three was that in order to complete the idioms, the participants would have to think about the meaning which a certain number can have and how it can go with the meaning of the idioms. Similarly, to complete the sentences using an appropriate number idiom, the participants in group four would have to think about how the idioms can be related to the sentences.

In addition, two weeks after their initial transparency judgement, the participants in group three and group four were given brief explanations about how the literal and figurative meanings of the idioms could be related, and then they were asked to make transparency judgements for the idioms again. The explanations are to help the participants establish a link between the idioms and their constituents. As Malt and Eiter (2004) argued, once the link between the form and the meaning has been created and strengthened, the meaning becomes obvious and thus difficult for people to construct other meanings (Malt & Eiter, 2004); likewise, it was expected that after the explanations were given, once the participants realize the connection between the idioms and their constituents, they would find it obvious and as a result, rate the idioms more transparent. For the design of the study, please see Figure 1.

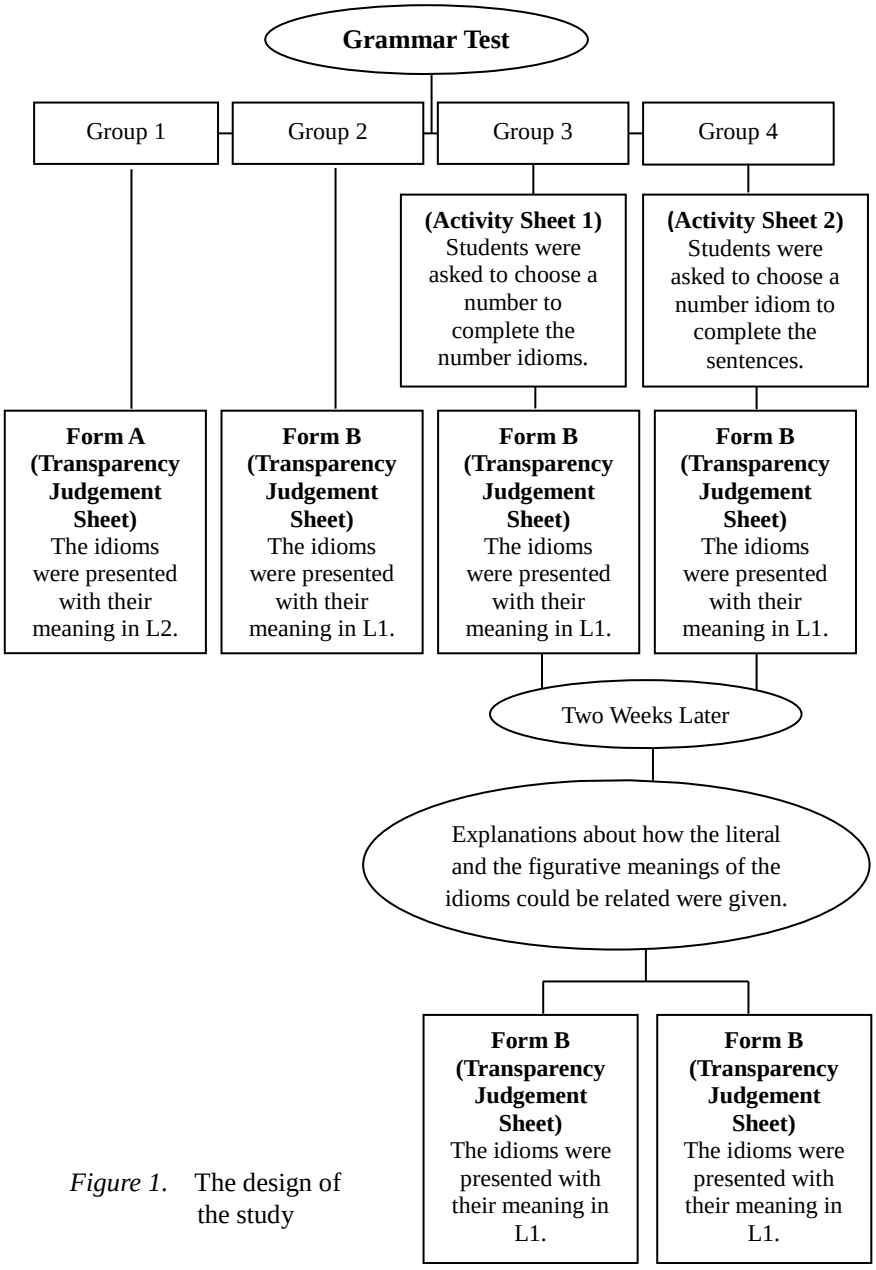

Figure 1. The design of the study

Materials

The 18 idioms used in this study were selected from both websites and the Longman English-Chinese Dictionary of English Idioms (1996).[4] The idioms were selected based on the following principles.

- They all appear in more than one source. That is, they can be found in dictionaries (either a paperback dictionary or an online dictionary) and English-learning websites.
- They are between two and five words in length.
- Idioms which are similar in terms of the position where the number constituent appears are preferred. For instance, as Table 1 shows, out of the 18 idioms, seven idioms have the number constituent at the end of the expressions (e.g. *on cloud nine* and *take five*), four idioms have the number at the beginning of the expressions (e.g. *one in the eye* and *nine day's wonder*), another four have the number in the middle (e.g. *at the eleventh hour* and *in two shakes*), and three have two numbers in the expressions (e.g. *put two and two together* and *at sixes and sevens*).

Idioms which are similar in terms of structure are preferred. For instance, the study included six NP idioms (e.g. *forty winks*), five VP idioms (e.g. *look after number one*), six PP idioms (e.g. *on all fours*), and one ADV idiom (*back to square one*), which was wrongly categorized as a VP idiom in the tests. Because the study is about including a variety of number idioms, not about structure types, and because the four groups of participants were all tested on the same idioms, it was decided that the data obtained from the ADV idiom did not need to be excluded from the analysis.

[4] 1. http://www.idiomconnection.com/number.html
2. https://www.englishclub.com/ref/Idioms/Numbers/
3. http://www.5minuteenglish.com/may6.htm
4. http://a4esl.org/q/h/9801/sb-idioms.html
5. http://www.ecenglish.com/learnenglish/lessons/idioms-using-numbers

Table 1

The 18 English Number Idioms Included in the Study

Position of the number constituent	Idioms	
At the beginning	● one in the eye ● forty winks	● a five finger discount ● a nine day's wonder
In the middle	● feel like a million dollars ● at the eleventh hour	● of two minds ● in two shakes
At the end	● one's number two ● take five ● dressed to the nines ● look after number one	● on all fours ● on cloud nine ● back to square one
Containing two numbers in the expression	● a hundred and one ● put two and two together ● at sixes and sevens	

For the purpose of this study two transparency judgement sheets (Form A and Form B) and two activity sheets (Activity Sheet 1 and Activity Sheet 2) were created. In Form A, the idioms were presented with their meaning in English (see Appendix A). In Form B, the idioms were presented with their meaning in Chinese (see Appendix B). The English meaning of the idioms used in Form A was verified by a native English speaker who teaches English in Taiwan at the university level, and the Chinese meaning used in Form B was verified by a native Chinese speaker who is also a university English teacher. Both are experienced teachers and are aware of the general English education background of Taiwanese students.

Activity Sheet 1 and Activity Sheet 2 were used in conjunction with Form B for group three and group four, that is, for both groups, the students were asked to make transparency judgements using Form B, but prior to making a transparency judgement, the students in group three were asked to complete the task on Activity Sheet 1and the students in group four were asked to do Activity Sheet 2. The task on Activity Sheet

1 required the students in group three to choose a number to complete the number idioms. The meaning of the idioms was provided alongside the idioms in L1. In order to complete the idioms, the students were forced to think about why a certain number should be used for a certain idiom. The idioms were presented six in a row based on their types, i.e. NP, VP, or PP, and the numbers used in the number idioms were provided on the side (see Table 2 for examples of the task; the full test is included in Appendix C).

Table 2

Examples of the Task on Activity Sheet 1

白天打盹、午睡	_____ winks	one
對…的懲罰或報應	_____ in the eye	two
某人的副手	someone's number _____	forty

Activity Sheet 2 contained an activity that asked the students in group four to choose a number idiom to complete sentences. The meaning of the sentences was provided below the sentences in L1. To match the idioms with their sentences, the students had to guess the meaning of the idioms and find clues in the sentences that match their guesses. The sentences included were all less than 14 words in length, and a native English teacher at STUST (Southern Taiwan University of Science and Technology) was consulted to make sure that the usage of these idioms is correct and the sentences sound natural. Again the idioms were presented six in a row (see Table 3 for examples of the task; the full test is included in Appendix D).

Table 3

Examples of the Task on Activity Sheet 2

one in the eye	number two	forty winks
I was feeling a bit sleepy so I stopped the car to get _____.		
我覺得有點想睡覺所以就停下車來打個盹		
My promotion was _____ for my ambitious colleague.		
我的升遷對我那有野心的同事無疑是一大打擊		

Table 3

Examples of the Task on Activity Sheet 2 (continued)

He's now the boss's _____ and travels with him wherever he goes. 他現在是老闆的副手，老闆不管去哪他都一起去

Participants

A total of 209 transparency judgement sheets were distributed, but for those who were not from Taiwan (e.g. overseas students) and for those who majored in English, their transparency judgement sheets were discarded. Thus, there were 191 students (52 in group one, 48 in group two, 45 in group three, and 46 in group four) participating in the study. They were from National University of Tainan, Southern Taiwan University of Science and Technology, and the YMCA. The university students were enrolled in Freshman English Classes. The students at the YMCA were mostly young adults who had just obtained their degrees and started working; they were in a TOEIC preparation class. All of them participated in the study on voluntary basis; they were told that their performance on the tasks would not affect their final scores and if they wished not to participate in any of the tasks in the study, they could return the transparency judgement sheet to the researcher. The students were all native speakers of Chinese. To obtain their English proficiency level, they were given a grammar test (50 multiple choice items, see Appendix E) before the tasks. The mean score for each group was as follows - group one, M=52.15, SD=15.089; group two, M=54.71, SD=14.755; group three, M=55.27, SD=13.526; group four, M=56.00, SD=14.195. Generally speaking, the English proficiency level of the students fell between high basic and low intermediate.

Procedure

The contrast between the first two groups was to discover whether providing L1 translation would influence students' judgement on the idioms' transparency levels. To increase the internal validity of the study, the students were randomly assigned to group one or group two using the Research Randomizer Web site (http://www.randomizer.org/). The students who were assigned to group one (N = 52) were given Form A, and the students who were assigned group two (N = 48) were given

Form B. To help the students understand the concept of idiom transparency, at the top of each form, a definition of the term was provided and Chinese idioms were used as examples to illustrate what may be a low or a high transparency idiom (see Appendix A and B); the definition, examples, and instruction were all written in Chinese to make sure that the students understand the task. The researcher first read through the definition and examples with the students, then the students were asked to rate the transparency level of the idioms on their own using a five-point Likert scale (1 = very low, 5 = very high). There was no time limit for doing the task; however, most students finished the task within ten minutes.

The purpose of having group three and group four was to see whether getting students to think about the relationships between words, between idioms, and contexts would help them relate the literal and figurative meanings of the idioms. Again the students were randomly assigned a group using the Research Randomizer Web site. Those who were assigned to group three (N = 45) were given Activity Sheet 1, and those assigned to group four (N = 46) were given Activity Sheet 2. Once the students had completed the task on their activity sheets, the sheets were collected, and the students were then asked to make transparency judgements of the 18 idioms using Form B. Again, there was no time limit for the task, but in general, it took the students ten to fifteen minutes to finish the task on their Activity Sheets and another ten minutes or so to complete Form B.

Two weeks after their initial transparency judgement, the students in group three and group four were given brief explanations as to how the literal and figurative meanings of the idioms could be related. Immediately after the explanations were given, the students were asked to make judgements about the transparency level of the idioms again using Form B.

RESULTS

I. Is Translation Necessary?

A one-way ANCOVA was used to investigate if there was a significant difference in the transparency ratings among the four groups adjusting for the grammar pre-test scores. Descriptive statistics in Table 4 report the means and standard deviations/standard errors for the

transparency ratings of the 18 idioms when adjusting and not adjusting for the pre-test scores. After examining the means, the results showed that group four had the highest transparency mean rating and group one had the lowest mean rating. A one-way ANCOVA revealed that there were significant differences among the four groups in their transparency rating when controlling for the grammar pre-test, F (3, 155) = 2.736, p < .05 (see Table 5). Bonferroni post hoc tests were conducted to examine the pairwise comparisons differences. The results are presented in Table 6. The mean difference indicates that students who were asked to match the idioms with a suitable sentence before doing the transparency task tend to give higher transparency ratings (M=3.31; SE=.076) than those who were provided only the English meaning of the idioms and were not involved in any activity before doing the transparency task (M=3.01; SE=.084). The comparisons were significant at the .05 value and the grammar pre-test was adjusted for at the value of 54.45. It seems that before making transparency judgements, engaging students in activities such as asking them to complete sentences by choosing an appropriate number idiom could lead them to give a higher rating to the idioms. However, whether the meaning of the idioms was given in L1 or L2 would not make much difference in students' transparency ratings.

Table 4

Descriptive Statistics of the Transparency Rating between Different Groups Adjusting and Not Adjusting for Grammar Pre-test

		Unadjusted		Adjusted	
Groups	N	Mean	S.D.	Mean	Std. Error
Group 1 (L2 meaning)	36[5]	2.99	.505	3.01	.084
Group 2 (L1 meaning)	40	3.15	.431	3.15	.079
Group 3 (guessing number)	41	3.09	.502	3.08	.078
Group 4 (context provided)	43	3.32	.551	3.31	.076

a. Covariates appearing in the model are evaluated at the following values: grammar pre-test = 54.45

Table 5

Analysis of Covariance for the Relationships between Transparency Rating and Group Adjusting for the Grammar Pre-test

Source of Variation	DF	Mean Squares	F	P
GramPre	1	.710	2.877	.092
Group	3	.675	2.736	.046
Error	155	.247		

a. R Squared = .075 (Adjusted R Squared = .051)

[5] The reason the numbers of subjects shown here do not match the numbers stated in the participants section is mainly because the grammar test and the transparency judgement task were conducted on separate days. Some students were absent on the day when the grammar test was given, while some others were absent on the day when the transparency judgement task was administered. In addition, if any item on a transparency judgement sheet is not completed, the sheet will be considered invalid. For these reasons, fewer subjects were counted in the ANCOVA analysis.

Table 6

Post Hoc Tests of the Relationship between Transparency Rating and Group Adjusting for the Grammar Pre-test

A	B	a A-B (Mean difference)	Sig.
Group 1 (L2)	Group 2 (L1)	-.141	1.000
	Group 3 (number)	-.075	1.000
	Group 4 (context)	-.306*	.047
Group 2 (L1)	Group 3 (number)	.066	1.000
	Group 4 (context)	-.165	.803
Group 3 (number)	Group 4 (context)	-.231	.210

*. The mean difference is significant at the .05 level
a. Adjustment for multiple comparisons: Bonferroni.

II. Transparency Assumptions, Fixed Opinions?

For the two groups (groups three and four) that were later given brief explanations about how the literal and figurative meanings of the idioms could be connected, a paired-samples t-test was used to find out if there was a significant change in students' transparency ratings after the explanations were given. The results revealed that for both groups, the students' mean rating was significantly higher (group three, M=3.94, SD=.528, see Table 7; group four, M=3.88, SD=.649, see Table 9) than their initial rating before the explanations (group three, M=3.01, SD=.541, t (40) = -10.567, $p < .05$, see Table 8; group four, M=3.39, SD=.491, t (37) = -4.35, $p < .05$, see Table 10). The results indicate that providing students with some explanations could help them make sense of the idioms and enhance their opinions of the idioms.

Table 7

Descriptive Statistics of Transparency Rating for Group Three

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	initial mean	3.01	41	.541	.085
	after mean	3.94	41	.528	.083

Table 8

Paired Samples T-test for the Difference between the Two Transparency Judgements (Group Three)

	Paired Differences			t	df	Sig.(2-tailed)
	Mean	Std. Deviation	Std. Error Mean			
Pair 1 initial mean – after mean	-.930	.563	.088	-10.567	40	.000

Table 9

Descriptive Statistics of Transparency Rating for Group Four

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	initial mean	3.39	38[6]	.491	.080
	after mean	3.88	38	.649	.105

Table 10

Paired Samples T-test for the Difference between the Two Transparency Judgements (Group Four)

	Paired Differences			t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean			
Pair 1 initial mean – after mean	-.494	.700	.114	-4.349	37	.000

DISCUSSION

I. Group One and Group Two: Translation or Access

Although translation is a way to draw on prior knowledge for learning L2, and L1 is crucial in how it creates an association between a new word and its corresponding concept, results from this experiment showed that there was no significant difference in students' transparency

[6] The reason there are fewer subjects here is because seven students were absent the day when the students were given the explanations and asked to rate the idioms' transparency level again. In addition, in their initial ratings, one student left an idiom out on the transparency judgement sheet (see Appendix G), thus, only 38 valid pairs were found and calculated.

ratings between group one and group two, that is, between students who were presented the meaning of the idioms in L1 and those who were presented the same information in L2.

To account for the results, it is worth looking at the idioms tested. It seems that the 18 idioms tested are relatively easy in terms of the concept they are associated with. For instance, compared to the idiom "*catch 22"*, the meanings of the 18 idioms tested are rather simple and straightforward. The idiom "*catch 22"* was initially included on the list of idioms tested. However, after consulting the native speaking teacher who helped check the meaning for the idioms tested, "*catch 22*" was eliminated for the complexity in concept it involves. It was thought that a bit of logic is required to comprehend the idiom which describes an impossible situation where you are prevented from doing one thing until you have done another thing, but you cannot do the other thing until you have done the first thing. Apart from the idioms' simple concepts, the L2 meanings provided for the students in group one were written in simple English to facilitate comprehension. For these reasons, it was probably not too difficult for the students to read and understand the meanings of the idioms in English.

Alternatively, it may be that the group of participants did not need to rely on L1 to decode the L2 idioms tested. Using L1 to learn L2 is considered more suitable for elementary level learners (Ramachandran & Rahim, 2004). In contrast to elementary level learners who would use much of their attentional capacity for decoding rather than for comprehension (a limited capacity hypothesis, LaBerge & Samuel, 1974), the group of participants was probably able to access the meaning of the idioms directly through L2. Note that making judgements about an idiom's transparency level is about connecting the meaning of the idiom with its individual words. The point is to grasp the main concept represented by the idiom and to compare it with the ideas presented by the individual words. As long as the concepts are obtained, the medium (L1 or L2) that delivers the concepts would probably not affect students' judgement call on how well the concepts are related. Thus, translation as a means to access the concept represented by an idiom would not be effective if L2 meaning is clear enough to convey the concept, or if learner's L2 proficiency level is good enough to access the concept directly through L2.

What's more, the finding suggests that the cognitive skills required to link the meaning of an idiom to its constituents may not be directly

related to language at all. Researchers who study reading comprehension argue that reading comprehension is based on general cognitive operation (Gernsbacher, 1997; Gernsbacher, Robertson, Palladino, & Werner, 2004), not specific to reading (MacDonald & MacWhinney, 1990), or to language (Gernsbacher, Varner, & Faust, 1990). In a similar fashion, making transparency judgements represents one's attempt to build a connection between concepts. It requires one to exert his/her world knowledge, to find similarities between concepts, and to use a bit of imagination to link the concepts together. This ability to draw analogies does not necessarily have anything to do with language. For instance, to relate the meaning of the idiom *on all fours* to its constituents, one only needs to realise that we as well as many animals have four limbs; animals walk and run on all four limbs, but we humans use lower limbs (two legs) for walking. When we are on all fours, we get down with our hands and knees on a surface. Thus, as long as the students can grasp the meaning of the idiom, it does not seem to make much difference whether the meaning is presented in L1 or L2. Since the cognitive skills required to make transparency judgements are not related specifically to language, it is perhaps not a total surprise to find no significant difference between group one and group two.

II. Group Three: Internal Semantic Compatibility

For group three, before doing the transparency judgement task, the students were asked to choose a number to complete the number idioms. The results showed that the transparency ratings given by this group were not higher than the ratings given by the other three groups; in other words, the activity did not help the students relate the meaning of the idioms to their constituents. Given that idioms are conventionalized expressions, without any clues it was not easy for the students to guess the number used in the number idioms; the irregular aspect of idioms makes it difficult to guess and to deduce why a certain number is used.

However, this does not mean that the numbers used in the number idioms are entirely arbitrary and students' judgement about the transparency level of the idioms had nothing to be based on. By comparing idioms that were rated the most and the least transparent by this group of students, it was found that students' transparency judgement seems to be related to the semantic compatibility of the constituents. Consider the three idioms that had the highest transparency

ratings (for the transparency ratings of all the 18 idioms given by group three, see Appendix F). As figure 2 shows, since *two* is the number that immediately follows *one*, it is semantically more compatible to the meaning of a person following and supporting someone in an important job. Figure 3 points out that only a large number can go with the meaning of feeling great. To convey the meaning, a million dollars is probably more suitable than one dollar or fifty dollars. Finally, with regard to the idiom *of two minds*, it seems that any number larger than one can be used to illustrate the state of not being able to come to "one" single decision, but since *two* is the smallest number that can represent the idea, it naturally fits in the spot. Alternatively, figure 4 shows that *two* could be taken as the two sides of a scale wavering to find a balance. The use of *two* vividly depicts the state of not being able to come to a decision, a balance point. Although these explanations may not be the way students approached the numbers, they are to show that it is not difficult to find certain relationships between the meaning of the idioms and the number used in them, and this is probably why they were given higher transparency ratings.

someone's number two [a person who **supports** and works closely with someone in an **important** job]	someone's number (+two, −three, −four, −five)	**= second** to one

Figure 2. The compatibility of different numbers with the idiom *someone's number two*

feel like a million dollars [to feel **great**]	feel like (+a million dollars, −one dollar, −fifty dollars)	= a **large** number

Figure 3. The compatibility of different numbers with the idiom *feel like a million dollars*

of two minds [**unable** to come to **a decision**]	of (+two / −one / +ten) minds	= **two sides** of a scale **seeking for balance**

Figure 4. The compatibility of different numbers with the idiom *of two minds*

By contrast, for the three idioms that received the lowest ratings, it is difficult to draw a connection between the meaning of the idioms and the number used; it seems that there is no reason why the number cannot be replaced by another number (see figure 5, 6, and 7).

forty winks [a short sleep, especially during the day]	(? forty / ? fifty / ? a hundred) winks

Figure 5. The compatibility of different numbers with the idiom *forty winks*

one in the eye [a disappointment or punishment for someone]	(? one / ? two / ? five) in the eye

Figure 6. The compatibility of different numbers with the idiom *one in the eye*

dressed to the nines [dressed in one's best clothes]	dressed to the (? nines / ? tens / ? twelves)

Figure 7. The compatibility of different numbers with the idiom *dressed to the nines*

To sum up, the finding that students' transparency judgement can be related to the semantic compatibility of the constituents is consistent with Abel's (2003) finding that non-native speakers tend to decompose idioms. Non-native speakers decompose idioms and activate the

constituent entries because the figurative meaning of the idioms is less salient for them. This explains why idioms whose use of number can go along with the meaning of the idioms tend to be rated higher in transparency. The finding also indicates that features inherent in idioms (i.e. metonymies and semantic compatibility of the constituents) may have helped students to make their transparency judgement, supporting the hybrid view of transparency intuitions which hypothesizes that transparency intuitions can be partly formed by resorting to knowledge structures inherent in idioms.

III. Group Four: External Semantic Compatibility

For the students in group four, they were asked to complete sentences by choosing an appropriate number idiom. Following this activity, the students then made judgements about the transparency level of the idioms. The results showed that compared to the other three groups, this group of students gave a significantly higher rating to the list of idioms tested (for the transparency ratings of the idioms given by group four, see Appendix G). Apparently engaging the students in such an activity prior to the transparency task made it easier for them to relate the meaning of the idioms to the individual words. In order to contribute to the context it is necessary for idioms to be semantically compatible with the rest of the text (Fernando, 1997), and to match the idioms with the sentences, the students have to look for meanings that could co-occur with the idioms in the sentences. Consider the example in figure 8. The context can help the students select a suitable idiom by restraining the theme to *going to a party*. *Dressing up* or *having a lot of money* can probably be associated with the theme; however, *adding up numbers* cannot be directly related to the theme.

She must be **going to a party** – she's
- + dressed to the nines.
- + felt like a million dollars.
- − put two and two together.

Figure 8. The compatibility of the idiom *dressed to the nines* with its context

In figure 9, *not willing to help the others* could imply that someone *only looks after himself*, and it would be odd for the word *only* to collocate

with a large number like *a million dollars*. The idiom *take five* is not a good choice either because it indicates *ta king more than one,* in contradiction to *not willing to help people other than oneself.*

My neighbour **only**	＋looks after number one －takes five －feels like a million dollars	and he **will not help other people**.

Figure 9. The compatibility of the idiom *look after number one* with its context

The sentences provided are essential in placing constraints on what the idiom may be referring to and the students can guess the meaning of the idioms by finding clues in the sentences. In contrast to condition three which required the students to choose a number to complete the number idioms, the process of finding clues in the context helps the students to activate their prior knowledge and to exert their general cognitive ability to uncover the connections between meanings.

IV. Transparency Relativity

Two weeks after doing the transparency task, the students in group three and group four were given brief explanations as to how the literal and figurative meanings of the idioms could be related. After the explanations were given, the students were asked to make judgements about the transparency level of the idioms again. The results showed that students' transparency ratings went significantly higher after they were given explanations about how the numbers could possibly be related to the meaning of the number idioms. Note that these were not always the explanations about how the meaning of the idioms was motivated in the first place. They were often just a brief account about how the concepts could be possibly connected. For instance, the students were told that there are five fingers on one hand, and so to steal with one's hand is called a *five finger discount*. For the idiom *a hundred and one*, it was explained to the students that the number *one hundred* means a lot; therefore more than *a hundred* means very many. With the idiom *a nine day's wonder* the students were asked to imagine a situation in which something is talked about by everyone, then for just a few days over a week, not even ten days, people stop talking about it. The results seem to

indicate that all that is needed to raise students' awareness of the connection behind the idioms and their constituents is a story or an explanation that makes sense of the number used.

This finding agrees with Keysar and Bly's (1995) argument that once a link between an idiom and its constituents is created, "it becomes difficult to construct other meanings or explanations for how those alternative meanings would be linked to the expression" (Malt & Eiter, 2004, p.897). It echoes a phenomenon described by Fischhoff (1982): "Once people have acquired a piece of knowledge, they tend to feel that it is obvious that this fact would be true, although they could not have guessed that it would be true in advance" (cited by Malt & Eiter, 2004, p.902). Slovie and Fischhoff (1977) gave an example to illustrate it: "when told about a scientific experiment and an outcome, people tend to see that outcome as inevitable and hence not surprising" (cited by Malt & Eiter, 2004, p.902). To account for the phenomenon, Fischhoff and colleagues explained that in light of the outcome, people come up with reasons that could lead up to the outcome and deemphasize the possibilities of any other alternatives. In this study, a similar phenomenon was reflected in the higher ratings given by the students after the explanations were given; it was likely that after the explanations the students found the connections between the idioms and their components quite obvious and thus rated the idioms more transparent.

CONCLUSION

To conclude, this study set out to investigate factors that could influence EFL students' judgements about idioms' transparency level. The results support both the traditional and the hybrid views of transparency intuitions, and indicate that when the concept an idiom represents is not very complex, providing L1 translation of the idiom would not necessarily help learners to connect the literal and figurative meanings of the idiom. However, on the other hand, EFL learners' assumptions about idioms' transparency level could be related to the semantic compatibility of the idioms with their constituents and with the context. For EFL learners, forming assumptions about an idiom's transparency level is also about applying their general cognitive skills to determine how compatible the individual words are with the meaning of the idiom and with the context. Moreover, after the meaning of an idiom was learned, assumptions about the idiom's transparency level could be

enhanced by a simple explanation about how the literal and figurative meanings of the idiom can be connected. To summarize the key findings of the study, a formula is written as (1).

(1) $T_{(EFL)} = S.C._{(i)} + S.C._{(e)}$

$T_{(EFL)}$: EFL learners' assumptions about an idiom's transparency level

$S.C._{(i)}$: Semantic compatibility of the constituents with the meaning of the idiom (Internal Semantic Compatibility)

$S.C._{(e)}$: Semantic compatibility of the constituents with the context (External Semantic Compatibility)

However, the formula in (1) cannot fully express the idea that opacity, or in this case, transparency, does not come from the idiom itself but is related to the *perceptions* of the language user (Fernando, 1997). As discussed in the previous section, how the constituents can be related to the meaning of the idiom is subject to one's general cognitive skills. Different individuals can have different ways of interpreting the use of a number in an idiom or the use of an idiom in a context. The process of applying one's general cognitive skills to determine the semantic compatibility of the constituents cannot be dismissed in the formula. To incorporate the idea into the formula, it can be rewritten as (2a) or (2b).

(2) a. $T_{(EFL)} = (S.C._{(i)} + S.C._{(e)})$ G.C.

b. $T_{(EFL)} = S.C._{(i)} + S.C._{(e)} + G.C.$

G.C.: General cognitive skills

In (2a), EFL learners' assumptions about an idiom's transparency level come from the semantic compatibility of the constituents with the idiom itself (S.C.(i)) and with the context (S.C.(e)) multiplied by learners' general cognitive skills (G.C.). In (2b), the assumptions are the sum of the three elements. The main difference between the two is in how G.C. is presented in the formula. In (2a) G.C. is the ultimate factor, while in (2b) all three elements have an equal proportion in determining the transparency level of an idiom. To find out which is more appropriate, it

is necessary to go back to the definition of idiom transparency. As reviewed in the introduction, the concept of transparency originated from idiom decomposability, and it is either how *speakers think* the meaning of the individual words contributes to the figurative meaning of an idiom (Gibbs, et al, 1989), or the extent to which someone can *perceive* a link between the meaning of the individual words and an idiom's figurative interpretation (Cacciari & Levorato, 1988). The point is that transparency or decomposability is not compositionality, as mentioned earlier; it does not come from the idiom itself but is related to *the perceptions of the language user* (Fernando, 1997). Thus, although idioms are composite units, their transparency cannot simply be the sum of the three elements; on the contrary, learners' general cognitive skills have to be the deciding factor in the formula so that it can address the situation when the lack of general cognitive skills in learners can render an idiom opaque (see (3)), and also accommodate the result of the study when after being told how the literal and figurative meanings of an idiom can be connected, students' transparency ratings for the idioms were significantly higher than their initial ratings. Therefore, (2a) should be a better representation of the findings.

(3) $T_{(EFL)} = (S.C._{(i)} + S.C._{(e)})\ G.C.$
When $S.C._{(i)} = x$
$S.C._{(e)} = y$
$G.C. = 0$
$T_{(EFL)} = (x + y)\ 0 = 0$

What the findings of the study mean to theories of idioms is that they show that idiomatic expressions, despite being fixed in a specific order and lexical form, contribute to the idiomaticity of a text through semantic compatibility of the expressions. That is, idioms need to be both semantically compatible and incompatible with the rest of the text. To contribute to the context, they need to be semantically compatible with the text (Fernando, 1997); however, they also need to be incompatible with the rest of the text to signal another level of reading (e.g. *Refugees from Syria are brushed under the carpet*). Idiom transparency is thus related to the degree to which an idiom is semantically compatible within itself and with the context. And of course, as the study has shown, one's general cognitive skills could also impact on how one perceives the semantic compatibility of an expression.

In addition, this study showed that EFL learners did not operate only on the open-choice principle, they seem to have some knowledge over and above rules and words. For instance, in this study, had the students operated purely on the open-choice principle, which holds that syntax specifies what can be inserted into a slot (Sinclair, 1991), there would not have been any difference in the idioms' transparency rating: since statistically, the slot in the number idioms could be filled with any number and the idioms' chances of being rated high or low in transparency should be the same. In the process of forming transparency assumptions, the students may have considered the idiomaticity of the expressions. The students' selection of numbers may not be accurate; however, they did demonstrate some sort of semantic preference, showing their knowledge over and above rules and words.

Finally, the formula identifies the key elements in EFL learners' assumptions about the transparency level of an idiom and indicates the way the elements are related to each other. In short, even though it is not easy to pinpoint how exactly idioms are perceived by EFL learners, the study represents an attempt to acquire the subtle mechanism behind the process; hopefully it will pave the way for studies on the subject in the future.

With regard to pedagogical implications, the findings of the study suggest that instructors do not always have to translate the meaning of the idioms for their students. Instead, instructors can provide learners with some creative explanations (i.e. explanations that combine linear and non-linear logic, or something that follows pictorial thinking) to help their students understand the expressions. Moreover, instructors can point out the semantic compatibility of an idiom with its component words and their collocability with the context. Being able to recognize the semantic compatibility of an idiom internally and externally can help EFL learners appreciate the expression as well as its usage in a context. This ability can be an important part of their metalinguistic knowledge in learning figurative language. Last but not least, though the findings of the study have significant implications for metalinguistic knowledge and instructional effectiveness in L2 development, more research, for instance research that involves different proficiency levels of students or with idioms in different languages, is needed to confirm the present results.

REFERENCES

Abel, B. (2003). English idioms in the first language and second language lexicon: a dual representation approach. *Second Language Research, 19*, 329-358.

Alexander-Shea, A. (2011). Redefining vocabulary: The new learning strategy for social studies. *The Social Studies, 102*, 95-103.

Anderson, R. C., & Pearson, P. D. (1984). A schematic-theoretic view of basic processes in reading comprehension. In P. D. Pearson, R. Barr, M. L. Kamil, & P. B. Mosentham, *Handbook of reading research* (pp. 255-292). New York: Longman.

Bartsch, R. (1998). *Dynamic conceptual semantics: A logico-philosophical investigation into concept formation and understanding.* Stanford, CA: CSLI publications.

Ben-Hur, M. (2006). *Concept-rich mathematics instruction: Building a strong foundation for reasoning and problem solving.* Virginia, USA: Association for Supervision and Curriculum Development (ASCD) Publications.

Bortfeld, H. (2002). What native and non-native speakers' images for idioms tell us about figurative language. In R. Heredia & J. Altarriba (Eds.), *Advances in psychology: Bilingual sentence processing* (pp. 275-295). North Holland: Elsevier Press.

Cacciari, C., & Levorato, M. C. (1998). The effect of semantic analyzability of idioms in metalinguistic tasks. *Metaphor and Symbol, 13*, 159-177.

Fernando, C. (1997). *Idioms and idiomaticity.* Oxford: Oxford University Press.

Fischhoff, B. (1982). For those condemned to study the past: Heuristics and biases in hindsight. In D. Kahneman, P. Slovic, & A. Tversky (Eds.), *Judgment under uncertainty: Heuristics and biases* (pp. 335-351). Cambridge: Cambridge University Press.

Gernsbacher, M. A. (1997). Two decades of Structure Building. *Discourse Processes, 23*, 265–304.

Gernsbacher, M. A., Robertson, R. R. W., Palladino, P., & Werner, N. K. (2004). Managing mental representations during narrative comprehension. *Discourse Processes, 37*, 145-164.

Gernsbacher, M. A., Varner, K. R., & Faust, M. (1990). Investigating differences in general comprehension skill. *Journal of Experimental Psychology: Learning, Memory and Cognition, 16*, 430-445.

Gibbs, R. W., Bogdanovich, J. M., Sykes, J. R., & Barr, D. J. (1997). Metaphor in idiom comprehension. *Journal of Memory and Language, 37*, 141-154.

Gibbs, R. W., Nayak, N. P., & Cutting, C. (1989). How to kick the bucket and not decompose: analyzability and idiom processing. *Journal of Memory and Language, 28*, 576-593.

Gibbs, R. W., & O'Brien, J. (1990). Idioms and mental imagery: the metaphorical motivation for idiomatic meaning. *Cognition, 36*(1), 35-68.

Keysar, B., & Bly, B. M. (1995). Intuitions of the transparency of idioms: Can one keep a secret by spilling the beans? *Journal of Memory and Language, 34*(1), 89-109.

Kiefer, F. (1990). Linguistic, conceptual and encyclopedic knowledge: Some implications for lexicography. In T. Magay & J. Zigany (Eds.), *Proceedings of the third EURALEX international congress, Budalex '88* (pp. 1-10). Budapest, Hungary: Akadémiai Kiadó.

LaBerge, D., & Samuel, S. (1974). Towards a theory of automatic information processing in reading. *Cognitive Psychology, 6*, 293–323.

Lakoff, G. & Johnson, M. (1980). *Metaphors we live by.* Chicago, IL: University of Chicago Press.

Longman Dictionary of English-Chinese Dictionary of English Idioms. (1996). Hong Kong: Longman Asia.

MacDonald, M. C., & MacWhinney, B. (1990). Measuring inhibition and facilitation effects from pronouns. J*ournal of Memory and Language, 29*, 469-492.

Malt, B. C., & Eiter, B. (2004). Even with a green card, you can be put out to pasture and still have to work: Non-native intuitions of the transparency of common English idioms. *Memory & Cognition, 32*, 896-904.

Newmark, P. (1991). *About translation*. Bristol: Longdunn Press.

Nippold, M. A., & Duthie, J. K. (2003). Mental imagery and idiom comprehension: A comparison of school-age children and adults. *Journal of Speech, Language, and Hearing Research, 46*, 788-799.

Ramachandran, S. D., & Rahim, H. A. (2004). Meaning recall and retention: The impact of the translation method on elementary level learners' vocabulary learning. *Regional Language Centre Journal, 35*, 161-178.

Sinclair, J. (1991). *Corpus, concordance and collocation*. Oxford: Oxford University Press.

Skoufaki, S. (2009). Investigating the source of idiom transparency intuitions. *Metaphor and Symbol, 24*(1), 20-41.

Slovic, P., & Fischhoff, B. (1977). On the psychology of experimental surprises. *Journal of Experimental Psychology: Human Perception & Performance, 3*, 544-551.

Willingham, D., & Price, D. (2009). Theory to practice vocabulary instruction in community college developmental education reading classes: What the research tells us. *Journal of College Reading and Learning, 40*(1), 91-106.

ACKNOWLEDGMENT

This article is based on my doctoral dissertation. Therefore, I would like to thank my supervising committee, Ai-li Hsin, Lan-hsin Chang, Pen-ying Wang, Hui-fen Lin, and Mei-chen Lin, for their valuable feedback and advice. I would also like to express my appreciation to the anonymous reviewers of TJTESOL for their valuable suggestions and advice in making the final version of the paper possible.

CORRESPONDENCE

Crystal Jia-yi Lin, Center for General Education, National Taiwan University of Sport, Taichung City, Taiwan
E-mail address: lincrystal@ntupes.edu.tw

PUBLISHING RECORD

Manuscript received: April 27, 2014; Revision received: November 29, 2014; Manuscript accepted: February 5, 2015

APPENDIX

Appendix A. Form A (Transparency judgement sheet)

成語的透明度定義：成語的**字面**意思與**引申**意思的**相關性**

比如說，例 1: 才子佳人 (喻：泛指有才貌的男女)
字面意思 (才子 / 佳人)
字面意思與引申意思的相關性--偏高
例 2: 馬馬虎虎 (喻: 指還過得去。亦形容做事不仔細)
字面意思 (馬 / 虎)
字面意思與引申意思的相關性--偏低

以下是一些英文數字成語，請針對這些成語由 1 到 5 的等級，做透明度的判斷

	Idioms	Meaning	Transparency Level Low…….....…….High				
1	five finger discount	stealing, shoplifting	1	2	3	4	5
2	a hundred and one	very many	1	2	3	4	5
3	forty winks	a short sleep, esp. during the day	1	2	3	4	5
4	one in the eye	a disappointment or punishment for someone	1	2	3	4	5
5	a nine day's wonder	anything that causes excitement, but for only a short time	1	2	3	4	5
6	someone's number two	A person who works closely with someone in an important job	1	2	3	4	5
7	on cloud nine	very happy	1	2	3	4	5
8	on all fours	on hands and knees	1	2	3	4	5

	Idioms	Meaning	Transparency Level Low…….....…….High				
9	at the eleventh hour	at the last possible moment	1	2	3	4	5
10	of two minds	unable to come to a decision	1	2	3	4	5
11	in two shakes	in a very short time	1	2	3	4	5
12	at sixes and sevens	in a state of confusion or disorder	1	2	3	4	5
13	back to square one	back to the original starting point	1	2	3	4	5
14	look after number one	only think about oneself	1	2	3	4	5
15	put two and two together	to make a guess from what one already knows	1	2	3	4	5
16	take five	to take a short break	1	2	3	4	5
17	dressed to the nines	dressed in one's best clothes	1	2	3	4	5
18	feel like a million dollars	to feel great	1	2	3	4	5

Appendix B. Form B (Transparency judgement sheet)

成語的透明度定義：成語的**字面**意思與**引申**意思的**相關性**

比如說，例 1: 才子佳人 (喻：泛指有才貌的男女)
字面意思 (才子 / 佳人) 與引申意思的相關性--偏高
例 2: 馬馬虎虎 (喻: 指還過得去。亦形容做事不仔細)
字面意思 (馬 / 虎) 與引申意思的相關性--偏低

以下是一些英文數字成語，請針對這些成語由 1 到 5 的等級，做透明度的判斷

	Idioms	Meaning	Transparency Level Low…….....…….High				
1	five finger discount	偷竊、商店行竊	1	2	3	4	5
2	a hundred and one	許多、很多	1	2	3	4	5
3	forty winks	白天打盹、午睡	1	2	3	4	5
4	one in the eye	對…的懲罰或報應	1	2	3	4	5
5	a nine day's wonder	轟動一時隨即被遺忘	1	2	3	4	5
6	someone's number two	某人的副手	1	2	3	4	5
7	on cloud nine	歡天喜地	1	2	3	4	5
8	on all fours	匍匐著爬著	1	2	3	4	5
9	at the eleventh hour	在最後一刻	1	2	3	4	5
10	of two minds	三心二意、猶豫不決	1	2	3	4	5
11	in two shakes	馬上、立刻，不用很久	1	2	3	4	5
12	at sixes and sevens	亂七八糟、混亂無秩序	1	2	3	4	5
13	take five	短暫休息一下	1	2	3	4	5

	Idioms	Meaning	Transparency Level Low…….....…….High				
14	back to square one	回到原點	1	2	3	4	5
15	dressed to the nines	盛裝打扮	1	2	3	4	5
16	look after number one	只顧自己	1	2	3	4	5
17	put two and two together	根據已知事實推斷	1	2	3	4	5
18	feel like a million dollars	感覺很棒、精神好	1	2	3	4	5

Appendix C. Activity sheet 1

Based on the meaning of the idioms provided, choose a number to complete the idioms.

	Meaning	Idioms	Numbers
1	偷竊、商店行竊	_____ finger discount	one one two five nine forty a hundred
2	很多、許多	_____ and _____	
3	白天打盹、午睡	_____ winks	
4	對…的懲罰或報應	_____ in the eye	
5	轟動一時隨即被遺忘	a _____ day's wonder	
6	某人的副手	someone's number _____	

7	歡天喜地	on cloud _____	two two fours sixes sevens nine eleventh
8	匍匐著、爬著	on all _____	
9	在最後一刻	at the _____ hour	
10	三心二意、猶豫不決	of _____ minds	
11	馬上、立刻、不用很久	in _____ shakes	
12	亂七八糟、混亂無秩序	at _____ and _____	

13	短暫休息一下	take _____	one one two two five nines a million
14	回到原點	back to square _____	
15	盛裝打扮	dressed to the _____	
16	只顧自己	look after number _____	
17	根據已知事實推斷	put _____ and_____ together	
18	感覺很棒、精神好	feel like _____ dollars	

Appendix D. Activity sheet 2

Based on the meaning of the sentences, choose an idiom to complete the sentences.

one in the eye　a five finger discount　a nine day's wonder number two　forty winks　a hundred and one	
1	How could he afford that watch? Who knows - perhaps he got _____! 他怎麼買得起那隻錶？誰曉得--也許是偷來的！
2	I'm very busy this morning - I've got _____ things to do. 我今天早上很忙—我有許多事情要做
3	I was feeling a bit sleepy so I stopped the car to get _____. 我覺得有點想睡覺所以就停下車來打個盹
4	My promotion was _____ for my ambitious colleague. 我的升遷對我那有野心的同事無疑是一大打擊
5	The movie star was _____ and he was soon forgotten. 這個電影明星轟動一時之後隨即被遺忘
6	He's now the boss's _____ and travels with him wherever he goes. 他現在是老闆的副手，老闆不管去哪他都一起去

of two minds　in two shakes　at sixes and sevens on all fours　on cloud nine　at the eleventh hour	
7	I was _____ because I passed my exam. 我很高興因為我通過考試了
8	I got down _____ trying to find the coin I had dropped. 我趴下匍匐著試著找尋我掉的硬幣

Appendix D. Activity sheet 2 (continued)

of two minds in two shakes at sixes and sevens on all fours on cloud nine at the eleventh hour	
9	She always turned her homework in _____ just before the deadline. 她總是在期限前最後一刻才交作業
10	I'm _____ about my future: Shall I stay in Canada or go to Japan? 對於未來我猶豫不決：我該待在加拿大還是去日本？
11	I won't keep you waiting for long; I'll be ready _____. 我不會讓你等太久；我馬上就好
12	Everything is _____ in our house after last night's party. 昨晚派對之後我們家每件東西都亂七八糟的

Appendix D. Activity sheet 2 (continued)

look after number one back to square one put two and two together take five dressed to the nines feel like a million dollars	
13	If this method doesn't work we're _____. 如果這個方法不管用，那我們又回到原點了
14	My neighbour only _____ and he will not help other people. 我的鄰居只顧自己，他不會幫助其他人
15	I _____ and discovered who stole my bike. 我根據已知事實判斷，推敲出偷我腳踏車的人
16	We've been hiking all morning. It's time to _____. 我們已健行了整個早上，是該休息一下了
17	She must be going to a party - she's _____. 她一定是要去參加派對---瞧她盛裝打扮的樣子
18	I _____ today and I plan to go swimming. 今天我感覺很棒精神好，我打算去游泳

Appendix E. The grammar test

1. Most of our employees _____ today because of the strike.
   (A. worked B. is not working C. are not working D. don't work)
2. Our branch in Hong Kong _____ more than $200 million last year.
   (A. has lost B. lost C. is losing D. was lost)
3. Right now, day care is not provided at the company, but a new day care center_____.
   (A. is constructing B. is being built C. has constructed D. building)
4. I _____ lunch with our new agent next Tuesday.
   (A. have B. had C. has D. am having)
5. The next train to Paris _____ at 12:15 from platform 2B.
   (A. left B. is leaving C. leaves D. has left)
6. Michael woke up late. He _____ his train.
   (A. misses B. missing C. goes to miss C. is going to miss)
7. The plane was _____ its final approach to the airport when it developed a problem with its landing gear.
   (A. made B. making C. make D. makes)
8. He _____ to drive since he had an accident.
   (A. has not been able B. could not C. cannot D. is not able)
9. This is the first time I _____ the president.
   (A. meet B. met C. have met D. am meeting)
10. John Smith has _____ a senior partner in the law firm.
    (A. elected B. electing C. been elected D. being elected)
11. Please hold on. I _____ put you through to him immediately.
    (A. have B. would C. will D. am going)
12. He promised _____ late for the meeting next week.
    (A. to being B. not to be C. being D. not being)
13. I clearly remember _____ the document in the safe before I left.
    (A. have put B. put C. to put D. putting)
14. I'm exhausted. I'm looking forward to _____ on vacation.
    (A. go B. going C. be gone D. have gone)
15. I lost my passport at the airport. I will have to have another one _____.
    (A. had made B. to make C. been made D. made)
16. I can't show you the pictures. I haven't _____ yet.
    (A. had the film developed B. the film developed C. the film been developed D. to develop the film)
17. These suitcases are too heavy. Why don't you get a porter _____ them?
    (A. carry B. to carry C. carrying D. to be carried)
18. Your directions were very clear. I had no difficulty _____ the Technology Park.
    (A. in finding B. to find C. to finding D. to have found)

Appendix E. The grammar test (continued)

19. As he did not want to see her, he pretended _____ ill.
    (A. be B. to be C. being D. have been)
20. This report is really boring. It's not worth _____.
    (A. reading B. to read C. to be read D. to be reading)
21. What a surprise! I didn't expect _____ so early.
    (A. you arrive B. you arrived C. you will arrive D. you to arrive)
22. That yellow hat really makes him _____ smart.
    (A. look b. to look C. looking d. have looked)
23. The man warned the visitors not _____ the wires.
    (A. to touch B. touch C. touching D. have touched)
24. She asked _____ at her office at 10:30.
    (A. that I am B. to being C. not being D. me to be)
25. She got her wedding dress _____ by a French designer.
    (A. make B. have made C. made D. been made)
26. What _____ if your boss asked you to work on Saturdays?
    (A. do you say B. did you say C. will you say D. would you say)
27. If I _____ the GPS, I am sure I would have got lost.
    (A. don't use B. wasn't used C. wouldn't have used D. hadn't used)
28. If you _____ in the same situation, what would you do?
    (A. was B. were C. are D. will be)
29. If my assistant _____ me, I would have forgotten our appointment.
    (A. did not remind B. does not remind C. was not reminded D. had not reminded)
30. If he _____ more carefully, he will probably have another accident soon.
    (A. doesn't drive B. will not drive C. wouldn't be driven D. didn't drive)
31. The company's international sales increased _____ 21% _____ 2000 and 2005.
    (A. in B. on C. by D. for)
32. The oil industry is _____ far the most important industry _____ Saudi Arabia.
    (A. in B. on C. by D. for)
33. As the quality _____ this product has improved, the demand _____ it has grown.
    (A. in B. on C. by D. for)
34. This suit made _____ wool is superior _____ the other one.
    (A. to B. with C. for D. by)

Appendix E. The grammar test (continued)

35. Padang food is a style of Indonesian food that is eaten _____ one's fingers.
    (A. to B. with C. for D. by)
36. The cheapest way to move goods overseas is _____ ships, but that is also the slowest way.
    (A. to B. with C. for D. by)
37. Tom was hired because he is familiar _____ the latest developments in biotechnology.
    (A. to B. with C. for D. by)
38. Most of the delegates arrived _____ limousines.
    (A. in B. on C. with D. for)
39. Thanks _____ improvements _____ medical technology, doctors today are capable of making much more accurate diagnoses.
    (A. to B. with C. for D. by)
40. I agree with George when he said that before we decide _____ a plan, we need to talk to the boss.
    (A. in B. on C. by D. for)
41. The friendships _____ I made in college are some of the most valuable ones I have ever made.
    (A. whom B. which C. whose D. when)
42. I believe it was around July 1 _____ the buy-out took place.
    (A. whom B. where C. whose D. when)
43. The sales agent with _____ you will be training is named Mark Wilson.
    (A. whom B. where C. whose D. when)
44. Anyone _____ car is parked in a red zone will get a parking ticket.
    (A. whom B. where C. whose D. when)
45. This is the part of the factory _____ the actual production work takes place.
    (A. whom B. where C. whose D. when)
46. The pilot inspected the plane just _____ he took off.
    (A. since B. once C. until D. before)
47. _____ you begin working full-time, you will have less time for your hobbies.
    (A. since B. once C. until D. before)
48. Mary has been acting differently _____ she became the manager.
    (A. since B. once C. until D. before)
49. I cannot go to the beach _____ I have finished this work.
    (A. since B. once C. until D. before)
50. _____ their best efforts, the fire fighters were unable to save the building.
    (A. despite B. since C. even though D. unless)

Appendix F. Descriptive statistics of transparency ratings given by group three

	N	Min.	Max.	Mean	Std. Deviation
someone's number two	45	2	5	4.29	.895
of two minds	45	1	5	4.11	1.265
feel like a million dollars	45	1	5	3.80	1.236
back to square one	45	1	5	3.42	1.340
look after number one	45	1	5	3.42	1.357
five finger discount	45	1	5	3.36	1.264
at sixes and sevens	45	1	5	3.31	1.062
at the eleventh hour	45	1	5	3.27	1.452
in two shakes	45	1	5	3.18	1.386
a hundred and one	45	1	5	3.13	1.140
on all fours	45	1	5	3.04	1.413
put two and two together	45	1	5	2.73	1.156
take five	45	1	5	2.40	.939
on cloud nine	45	1	5	2.36	1.334
a nine day's wonder	45	1	4	2.31	1.125
one in the eye	45	1	5	2.22	1.146
dressed to the nines	45	1	5	2.16	1.021
forty winks	45	1	5	1.91	1.125
Valid N (listwise)	45				

Appendix G. Descriptive statistics of transparency ratings given by group four

	N	Min.	Max.	Mean	Std. Deviation
someone's number two	46	2	5	4.39	.774
of two minds	46	1	5	4.28	.911
dressed to the nines	46	2	5	4.20	.934
back to square one	46	1	5	4.02	1.164
look after number one	46	1	5	3.89	1.120
feel like a million dollars	46	1	5	3.65	1.386
at sixes and sevens	46	1	5	3.50	1.243
a hundred and one	46	1	5	3.41	1.343
at the eleventh hour	46	1	5	3.37	1.306
put two and two together	46	1	5	3.09	1.314
in two shakes	46	1	5	3.04	1.299
a nine day's wonder	46	1	5	2.91	1.262
take five	46	1	5	2.91	1.279
on cloud nine	45	1	5	2.91	1.474
five finger discount	46	1	5	2.85	1.299
forty winks	46	1	5	2.85	1.333
on all fours	46	1	5	2.59	1.392
one in the eye	46	1	4	1.72	.911
Valid N (listwise)	45				

歡天喜地與匍匐趴地：哪一個成語較透明易懂？ 外語學習者判斷成語透明度的因素

林佳儀
國立臺灣體育運動大學

成語透明度是指說話者對成語裡個別字義引伸出成語整體意義的看法（Gibbs, Nayak, & Cutting, 1988）；然而我們並不清楚說話者或語言學習者對成語透明度的臆斷是如何產生的。本研究旨在探討是否有因素能影響外語學習者對透明度的判斷。本研究比較四組學生對 18 個數字成語透明程度的評斷，共有 191 位學生參與本研究。 前兩組成語的意思分別以中文及英文呈現，學生須依成語的意思做透明度判斷。第三組及第四組學生在做透明度判斷之前，則分別參與了不同活動。第三組的學生須選填數字來完成數字成語，而第四組的學生則須填入數字成語來完成句子。研究結果顯示將成語意思譯成中文對學生連結成語字面與引申意並無幫助；而要求學生選填適當成語以完成句子卻能顯著提升學生對成語透明程度的評斷。進一步的檢視發現學生對成語透明度的評斷與成語內部及外部語意之相容性有關。本研究指出成語教學中翻譯不一定是必須的，反而引導學生思考字裡行間語意概念的關係更能幫助學生連結成語字面與引申意義。

關鍵詞：成語透明度、透明度的判斷、可分解性、數字成語、語意相容性