

Effects of Verbal Definitions and Etymological Notes on Comprehension and Recall of L2 Idioms

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ABSTRACT

Research in cognitive semantics has shown that the dual coding of input (i.e. presentation of both verbal and visual information) can enhance the formation of memory traces and, consequently, promote the retention of information. Some earlier studies (Boers, Demecheleer, & Eyckmans, 2004; Boers, Eyckmans, & Stengers, 2007) suggest that work on idiom etymology can help learners generate mental images that can be associated with verbal information, providing an additional pathway for its recall. However, the results of other studies (Szczepaniak & Lew, 2011) argue in favor of pictorial support and warn against the potentially distracting effect of etymology. The present study compared the effects of instruction through verbal definitions and etymological notes on the retention of the meaning and form of L2 figurative idioms. While etymology was found to have only a limited effect on the students' immediate learning performance, the results suggest that clarification of phrase etymology can enhance long-term comprehension and production of L2 idioms.

Keywords: idiom teaching, etymology, dual-coding theory

1. INTRODUCTION

Idioms were traditionally seen as “frozen” multi-word phrases, semantically-opaque, mutually unrelated and independent of any conceptual system that could only be mastered if approached as single lexical units and memorized as such (Boers et al., 2007; Cooper, 1999; Kövecses & Szabó, 1996). Moreover, they were considered to be as purely stylistic devices, and therefore of interest only to the most advanced learners. As a result, idiomatic language was given little attention in EFL literature (Boers et al., 2004).

However, idioms are much more than ‘decorative icing’ to the language; they are an integral feature of both written and spoken English. The ability to comprehend and use idiomatic language is one of the distinguishing marks of native-like competence (Cowie & Mackin, 1975). Furthermore, research conducted in cognitive semantics over the last 30 years has provided ample evidence that figurative language, including idiomatic expressions, is to a large extent semantically motivated and governed by the same cognitive principles that govern other linguistic behavior (Boers, 2004; Glucksberg, 2001; Kövecses & Szabó, 1996). These findings inspired new and more pedagogically sound approaches to the teaching of L2 idioms.

One way of helping learners recognize the semantic motivation behind idiomatic expressions is to draw their attention to the etymology of these expressions, their original use or the context in which they originated. Etymological awareness can be built by providing learners with the relevant information about the idiom origin or by asking them to hypothesize about the origin of the phrases before the etymological feedback is provided - a procedure known as etymological elaboration (cf. Boers et al., 2004).

The pedagogical benefits of etymological association are believed to be multifold. Firstly, understanding the idiom's origin helps learners establish the connections between the literal and figurative meanings, which in turn facilitates imagery processing. According to the dual-coding theory (Paivio, 1971), information that is presented both verbally and visually is stored and retrieved more easily than information presented through one modality only. Therefore, the formation of mental images for figurative idioms is expected to facilitate their retention and recall. Another advantage of etymological elaboration is that it increases learners' awareness of the historical background of figurative expressions, promoting a better understanding of the target culture. Variation in metaphor use is believed to reflect the established world views of a particular language community (Boers et al., 2004). Therefore, etymological understanding can offer learners a deeper insight into beliefs, values and practices that motivated specific linguistic expressions, making them more memorable.

The mnemonic effect of etymological elaboration has been tested in a number of experimental studies. In an experiment by Boers (2001), a group of 54 Dutch-speaking students were asked to confirm the meaning of ten figurative idioms in a dictionary. The follow-up task for the experimental group was to hypothesize about the origin of the expressions, while the control was asked to think of the suitable context for each of the target expressions. The experimental group did significantly better than the control group on tests of both receptive and productive idiom knowledge.

Boers et al., (2004) examined the effect of etymological elaboration on the acquisition of transparent and opaque figurative idioms and found that: 1) a significant number of idioms are etymologically transparent to the learners; 2) information about the idiom's origin can help learners infer the meaning of the figurative phrases; 3) etymological elaboration can have a positive mnemonic effect in the case of both transparent and opaque idioms.

Boers et al., (2007) conducted a series of experiments that examined the extent to which knowledge of the idiom's origin can facilitate the comprehension of their figurative use. Rather than providing etymological information to the learners, the learners were asked to make

hypotheses about the source domains of the idiomatic phrases, their meanings and their level of formality. The assumption was that higher cognitive involvement that that the tasks entailed would lead to a deeper level of input processing, and ultimately higher rates of retention. The mnemonic effect of this approach was tested through a gap-fill task where the learners were presented with a meaningful context and asked to supply the missing key-words from the target phrases. The results confirmed the hypothesis: the students' were more likely to guess the idiom meaning correctly if they first identified the source domains. Those idioms were also more likely to be remembered.

Bagheri and Fazel (2010) replicated the study by Boers et al., (2007) with Iranian learners of English. They also found that etymological elaboration enhanced learners' comprehension and retention of idioms.

However, not all experimental data indicate a positive effect of etymological information. A study conducted by Szczepaniak and Lew (2011) compared the effectiveness of different methods of evoking imagery processing. Four different formats of idiom presentation were examined:

- 1) definition of idiomatic meaning + example sentence;
- 2) definition of idiomatic meaning + example + etymological note;
- 3) definition of idiomatic meaning + example + picture;
- 4) definition of idiomatic meaning + example + picture + etymological note.

The participants in the study were randomly assigned to one of the four treatment conditions and presented with 18 idioms to learn. The effectiveness of the four modes of idiom presentation was assessed on the immediate and delayed post-tests, which took place a week after the treatment. Both tests had the same format: the students were first asked to write the full form of the target idiom based on one lexical component (a productive knowledge test) and to then select the best paraphrase of the idiom meaning out of four options (a receptive knowledge test). The results of the study showed that pictorial support had a significantly stronger effect on idiom learning than the presence of etymological notes. The authors attributed the results to a potentially distracting effect of etymological notes. Information about the idiom's origin may have diverted the learners' attention from the current usage while superficial reading of the etymological notes may have resulted in the entries being mixed up.

One reason for the differences in the findings may be due to the way etymological information was presented. In the experiments conducted by Boers and his colleagues, the learners were asked to hypothesize about the idiom origin, while in the Szczepaniak and Lew study the

learners worked with etymological notes extracted from L2 idiom dictionaries. The former task required more cognitive effort leading to deeper information processing, and consequently, stronger memory traces and higher retention rates.

2. PRESENT STUDY

2.1 Study purpose and hypotheses

The central aim of the present study was to investigate the extent to which etymological elaboration can facilitate idiom learning in L2. The study compared idiom acquisition under two conditions: (1) verbal definitions and (2) etymological explanations provided in the students' native language, Japanese. It was hypothesized that etymological feedback would increase the likelihood of dual coding, and in turn help the learners remember the target phrases.

2.2 Participants

The experiment involved one group of 37 first-year Japanese university students with an intermediate level of English proficiency.

2.3 Method and procedures

The study compared the acquisition of thirty L2 idioms, 15 of which were taught through verbal definitions and 15 for which etymological explanation was provided.

An effort was made to ensure that the target phrases in the two conditions were similar in general frequency of the constituent words. *Vocabulary Profiler* analysis showed that in both conditions, 86% of the constituent words belonged to the first 2,000-word frequency range. The verbal definition condition also contained one word from the academic word list, and seven low-frequency words. The phrases that were taught through etymology contained nine low-frequency words. A complete list of the target phrases can be found in Appendix 1.

The idioms were taught five at a time over six sessions. Each session lasted approximately 40 minutes and consisted of the following stages:

Firstly, the students' level of familiarity with the target phrases and their constituent words was established. In both conditions at the beginning of each session the students were presented with a list of five idioms and asked to explain their meaning in either English or Japanese. In order to be able to recognize a link between the literal and figurative meaning of an idiomatic phrase, it was considered important that learners had an understanding of the literal meanings

of the phrase constituents. Therefore, the students were instructed to circle all the words that were new to them. The meanings of these words were then clarified by the teacher.

At the second stage, in both conditions, the focus was on meaning, although the learners did have to pay some attention to the linguistic form in order to write the target phrases correctly. However, the procedures followed in the two conditions were different. For the idioms for which the treatment consisted of verbal definitions, the learners were asked to read example sentences that included the target idioms, infer their meanings and then write the phrases next to their L2 definitions. In the etymological definition condition, the input consisted of example sentences in L2 and explanations about the origin of the target phrases provided in L1. The decision to share etymological information with the learners was motivated by a number of reasons. Firstly, although the results of the earlier studies indicate that etymological elaboration tends to promote learning more than just simple exposure to etymological notes, the purpose of this study was to examine the extent to which etymology may facilitate imagery processing. Etymological elaboration requires more cognitive effort, which according to the Levels of Processing theory (Cermak & Craik, 1979; Craik & Lockhart, 1972) promotes the formation of memory traces and ultimately the encoding of the input. Therefore, it was assumed that if the learners had been asked to make hypotheses about the idiom origin, it would have been difficult to isolate the effect that the dual-coding of the input had on idiom comprehension and recall. Secondly, due to the learners' relatively low level of language proficiency, their limited cultural knowledge and their lack of experience with etymological elaboration as a learning strategy, it was feared that the majority of learners would experience considerable difficulties in generating plausible hypotheses. Misinterpretation of just one key-word in an idiomatic phrase can easily lead to an erroneous hypothesis about the idiom origin (Boers et al., 2004). Furthermore, hypothesizing about idiom origin could prove extremely difficult for less imaginative students. While in a regular class this problem could be overcome by having learners brainstorm about idiom origin collectively, enabling less resourceful students to benefit from the suggestions of their peers (cf. Boers, 2001), this format was not considered suitable for an experimental study as it would have been difficult to measure how much effect individual engagement with the task had on the students' performance. Finally, one more factor to consider was time limitation. As data were collected during regular class time, no more than 40 minutes of each class could be devoted to idiom learning. Asking learners to hypothesize about the origin of the phrases would have made it difficult to complete all the stages of the study and collect data on the comprehension and recall of the target phrases. Therefore, in this study the connection between the original usage of the expressions and their present idiomatic meaning was made explicit to the learners.

Etymological information was provided in the learners' native language, Japanese. The use of

L1 was adopted for two reasons. First, it was anticipated that L1 explanations would ensure that the background information was understandable to the learners, making it easier for them to associate idioms with concrete images. Secondly, as etymological information was also used as a “hint” during the delayed productive knowledge test, it was important to make sure that etymological notes did not disclose the form of constituent words of the target phrases. Etymological definitions were taken from *The Origin of English Idioms* (Sato, 2001). After the learners read etymological explanations in Japanese, they were asked to write the phrases next to their L2 definitions. After the task was completed, the learners were provided with the answers and given an opportunity to ask questions about the meaning or use of the target phrases.

Stages three and four tested students receptive and productive knowledge of the target phrases. In both conditions the students were asked to complete two gap-fill tasks. The first task served as a test of receptive knowledge. The learners were provided with a list of the target idioms in their neutral (dictionary) forms (e.g. *spill the beans, call someone's bluff*) and asked to complete a set of five sentences with suitable phrases. The second gap-fill task served as a test of productive idiom knowledge. The target idioms were not provided, and therefore in order to complete the sentences the students had to recall both their meaning and their form. After the two tasks had been collected, the students were provided with the model answers and invited to ask any questions that they had about the meaning or use of the target phrases.

One week after the idiom treatment the learners were given a delayed post-test, which consisted of two tasks. The first task was a test of productive idiom knowledge: the learners were provided with L2 definitions and asked to write the idioms that matched their meanings. For the idioms that were taught through etymology, L1 information about the phrase origin that was used at the treatment stage was re-printed above the L2 definitions. It was hoped that the etymological background provided in L1 would help trigger the learners' memory without disclosing the constituent words of the target phrases. After the students completed the first gap-fill task, the tests were collected and the students were given another sheet on which the target idioms were listed and they were asked to match these idioms with their L2 definitions. This task served as a test of the students' receptive knowledge of the target phrases. A sample of activities for all stages of the study can be found in Appendix 2.

Scoring. In the immediate receptive knowledge test, where idiom phrases were provided, the points were given if the students completed the sentence with the correct idiom. As the purpose of the test was to measure the students' understanding of idiom meaning, no points were deducted for inflectional or spelling errors.

In the immediate productive knowledge test, the students were only given the points when all components of the target phrases were encoded correctly. Spelling mistakes or omissions of an article or a preposition would result in no points being scored. However, the students were not penalized for verb tense errors as they were treated as grammatical errors, rather than lexical errors.

In the delayed post-test of receptive knowledge, the students scored a point if they matched the idiom with its definition. In the productive knowledge test, the points were awarded only if the complete phrase was written down correctly.

3. RESULTS

3.1 Students' familiarity with the idiomatic language prior to the vocabulary treatment

The results of the study showed that the students had no prior knowledge of the target idioms. The constituent words of the phrases, however, did not seem to present much difficulty for the students. The only items that had to be explained in class were *toss-up*, *burner*, *ace*, *bluff*, *ally*, *bait* and *hoops*.

3.2 Immediate receptive knowledge tests

The results of the immediate receptive post-test suggest a limited, although positive effect of etymological information on the retention of word meaning. When idioms were taught through verbal definitions only, the students remembered on average 63.6% of the target phrases; when etymological notes were added, the retention rate increased to 68.1%. The mean scores and standard deviations for the two conditions are presented in Table 1.

Table 1. Descriptive statistics of the immediate receptive knowledge tests (N=37)

Condition	Mean	SD
Verbal definitions	9.46	3.75
Etymological notes	10.22	2.38

The results above, however, should be interpreted with caution as paired sample t-test analysis showed that the difference between the two conditions did not reach statistical significance [$t(36)=1.27, p>.05$].

3.3 Immediate productive knowledge tests

In both conditions, the mean scores on the productive knowledge test were lower than those on the test of receptive knowledge, which can be explained by the more difficult nature of the task and the stricter grading criteria applied. A comparison of the mean values for the two conditions showed that the students' retention of idiom form was significantly better when instruction was limited to verbal definitions only. About 52% of the target idioms were recalled successfully in the verbal definition condition, while only 36.7% of the target phrases were produced correctly when instruction was built around etymological feedback. The results of the test are presented in Table 2.

Table 2. Descriptive statistics of the immediate productive knowledge tests (N=37)

Condition	Mean	SD
Verbal definitions	7.84	3.31
Etymological notes	5.51	3.05

The difference between the two conditions was found to be extremely statistically significant [$t(36)=4.78, p<.0001$]. The eta squared statistic (0.38) indicated a large effect size.

3.4 Delayed receptive knowledge post-tests

The mean scores on the delayed receptive knowledge post-tests suggest that etymological notes had a strong positive effect on the retention of idiom meaning. As shown in Table 3, one week after the treatment the students remembered the meaning of about 64.8% of the phrases taught through verbal definitions and about 80.5% of the idioms for which their etymological background was provided.

Table 3. Descriptive statistics of the delayed receptive knowledge post-tests (N=37)

Condition	Mean	SD
Verbal definitions	9.73	3.48
Etymological notes	12.08	2.86

A paired sample t-test analysis showed that difference between the two conditions was highly statistically significant [$t(36)=4.61, p<.0001$]. The eta squared statistic (0.37) indicated a large effect size.

3.5 Delayed productive knowledge post-tests

The scores on the delayed productive knowledge tests were found to be significantly higher when the origin of the target phrases was explained. About 63% of the target phrases were

remembered when the treatment consisted of verbal definitions. Etymological definitions resulted in the correct recall of 75.7% of the target idioms. Descriptive data for both conditions are presented in Table 4.

Table 4. Descriptive statistics of the delayed productive post-test (N=37)

Condition	Mean	SD
Verbal definitions	9.49	3.19
Etymological notes	11.36	2.73

The difference between the two mean values was found to be statistically significant [$t(36)=3.05, p<.05$]. The eta squared statistic indicated a large effect size.

4. DISCUSSION

The results of the study suggest that reference to the idiom origin in the presentation stage can facilitate the acquisition of both idiom meaning and their linguistic form. The results could be attributed to the facilitative effect of the dual-coding of the input. Etymological background is likely to have promoted the creation of mental images for the target expressions that were stored alongside their verbal forms, facilitating their retention and recall.

However, it is important to remember that the mnemonic effect of etymological input varied depending on the nature of the task (receptive vs. productive knowledge) and the stage of the experiment (immediate vs. delayed post-test).

In the immediate receptive post-test, etymological information did have a positive effect on the retention of the meaning of target phrases. This effect, however, was limited: little difference was observed in the average scores in the two conditions. One reason may be that while etymology evoked mental imagery, the fact that etymological notes were provided meant that the two conditions did not differ much in the amount of the cognitive effort that the students had to invest in order to complete the tasks, and consequently, there were no significant differences in the strength of memory traces that the two treatments produced.

The results of the first productive knowledge test did not suggest that etymology facilitated the acquisition of the linguistic form of idiomatic phrases. The average test scores for the idioms that were taught through etymological explanations were significantly lower than the scores for the phrases that were taught through verbal definitions. The phrases that learners produced

contained numerous instances of confusion of word forms, spelling errors and omissions of articles and prepositions. For example, the students would write *'slip the beans'* instead of *'spill the beans'*, or *'go berry up'* instead of *'go belly up'*. Occasionally the students would use near-synonyms, a strategy that sometimes worked and sometimes did not. For instance, instead of *'get up on the wrong side of the bed'* some students wrote *'wake up on the wrong side of the bed'*, an expression that also exists in the English language. However, when *'saved by the bell'* was replaced by *'helped by the bell'*, the figurative meaning was lost. In some cases the students mixed up the compositional elements of the target phrases. For example, *'bring someone to heel'* and *'jump through the hoops'* were taught in the same lesson and one student made up the phrase *'bring to the hoops.'* One reason for the production errors may be that etymological notes may have diverted learners' attention from the structural make-up of the phrases. Information about the idiom origin may have helped learners see why the idiom has the idiomatic meaning it has, but at same time it may have also made them devote less cognitive resources to the formal properties of new expressions.

In both conditions the average scores on the delayed post-tests were higher than the mean values on the immediate post-tests. This was true for both receptive and productive knowledge tests. Furthermore, the results of the delayed post-tests suggest a strong positive impact of etymological information on the retention and recall of the target idioms. Idioms taught through etymology yielded significantly higher scores than idioms taught through verbal definitions. Before the implications of these results are discussed, it is important to acknowledge some limitations in the study design. Although the students were not informed that there would be a follow-up test, and they were not given explicit instructions to memorize the idioms, as the study took place in a regular class and the procedures were repeated over six weeks, some students started recording the target phrases in their notebooks even though this practice was discouraged by the teacher and the students were told that the scores on the idiom tests would not be used towards their course grade. Therefore, comparatively high scores on the delayed post-tests can be attributed to two factors. One is the easier nature of the task. While in the immediate post-test the students had to think about the sentence context and sometimes transform the phrases, in the delayed post-test they only had to write the target idiom next to its definition. The other factor is the effect of review: it is possible that some students went over the target phrases one or more times between the treatment and the delayed post-test. However, while these limitations in the study design make it difficult to draw conclusions about the amount of learning that can be expected from the two types of treatment, a comparative analysis of the effectiveness of the two approaches is possible as there is no reason to assume that students who opted to review the phrases would have limited this practice to only one of the two treatment conditions. Therefore, the data obtained could be taken as

evidence of a facilitative effect that the presence of etymological notes had on acquisition of the meaning and lexical makeup of idiomatic phrases. Although provided in L1, etymological information seems to have triggered learners' memory of the meaning as well as the structural elements of the target phrases in the delayed post-tests. It is possible that understanding idiom origin helped the students to connect figurative meanings with the physical world. These associations may have prompted the generation of mental images, which in turn helped learners recall the constituent words of the target phrases.

The strategy also stimulated a positive affective response from the learners. Many students expressed surprise and interest in the origin of the target phrases. At the end of the treatment an informal class survey on strategy preference was conducted. Out of 37 students who participated in the study 34 said they preferred etymological notes to plain definitions, while the other three rated the two strategies equally. These findings are in line with the observation made by Landau (2001), who found that people enjoy reading etymologies and therefore etymological entries may increase learners' interest in idiomatic expressions.

5. PEDAGOGICAL IMPLICATIONS

The results of the study suggest that etymology could be a rewarding and powerful tool when it comes to teaching idiomatic language. Etymological information may help learners perceive idioms as motivated lexical units and make it easier for them to remember the meaning as well as the compositional elements of the phrases. It can help them unveil the lifestyles, customs and culture of the target community and get some insight into how the language has changed over time. Finally, etymological notes may increase the learners' interest and motivation to master idiomatic language.

Like any other teaching technique, however, etymology-based instruction should be adopted with caution. There are many idioms of unclear origin, or origin that requires specific cultural or historical knowledge. Unselective application of the procedure may lead to confusion among the learners and generate skepticism about the value of the strategy itself. Furthermore, as Boers et al., (2004) warned, instructors should be careful not to mislead the learners into seeing idioms as an indubitable 'mirror of culture'. While etymology can point to the metaphoric themes that were salient in a particular language community at a certain time, it is important to remember that even many native speakers today are not aware of the origin of the idiomatic phrases, and that idioms are to some extent 'a cultural reliquary' (Deignan, 2003). Learners must understand that idioms often tell us more about the culture of the past than the culture of the present. Instructors should consider carefully when etymological information is

likely to be illuminative for the learners, and make sure that etymological work does not foster a distorted picture of reality based on overgeneralization and stereotyping.

In addition to the language classroom, the results of the study call for more attention to be given to etymology in learners' dictionaries as well. Just like idioms themselves, etymological information has been systematically excluded from learners' dictionaries on the ground that historical background may not be relevant to the current usage, and therefore of little use to learners (Ilson, 1983). There is little doubt, however, that etymology has pedagogical relevance and that if approached selectively, etymological information can enhance learning and provide a more cognitively sound alternative to random and blind memorization of idiomatic expressions.

6. FUTURE STUDIES

The results of the study point to several possible directions for future research.

In the current study, the post-tests were given a week after the treatments and etymological notes were accessible to the learners at the time of testing. Further research is needed in order to assess the long-term effects of the strategy when etymological information is withdrawn at the time of the recall.

Idiom transparency is another factor that should be taken into consideration. Semantically transparent idioms may be easier to visualize but as their imagery processing requires relatively little cognitive effort, they may also be easier to forget. On the other hand, etymologically opaque idioms may be less conducive to mental image formation, but the extra cognitive effort may enhance their retention. More research is needed into how these intrinsic differences in idiom composition may influence the effectiveness of etymological definitions as a learning strategy.

Further studies are also needed with regard to the effect that cross-cultural variation in the distribution and saliency of idiom source domains may have on the effectiveness of etymological explanations. Languages do not always share the same metaphorical themes and, even when they are shared, they may differ in their level of prominence within a specific language community. Some studies, such as that by Boers and Demecheleer (2001), revealed that learners have more difficulty inferring the meaning of idioms when source domains are not shared between L1 and L2 cultures. It is possible that while the source of the culture-specific

idioms may be more difficult to infer, their distinctiveness will make them more memorable for the learners. This hypothesis, however, needs to be experimentally tested.

It would also be interesting to compare the effect of etymological elaboration with other teaching procedures motivated by the dual-coding theory, such as the use of pictorial support. As discussed earlier, the results of some studies, such as Szczepaniak and Lew, (2011), favor pictorial illustrations over etymological notes when it comes to the acquisition of idiomatic language. It should be remembered, however, that in the Szczepaniak and Lew (2011) study etymological information was extracted from learners' dictionaries and provided in L2. It would be interesting to compare the effect of etymological notes provided in the learners' native language with the effect of pictorial support when it is provided by the teachers, as well as when it is generated by the learners themselves.

Finally, one more issue of concern is how etymology based procedures may interact with learners' cognitive styles. It is possible that etymology may benefit learners with an analytic cognitive style more than holistic learners. The effects may also be more pronounced in the case of visual rather than verbal or kinesthetic learners as they are more likely to think in pictures and create mental images. These hypotheses, however, also need to be experimentally tested.

It is hoped that the results of this study will encourage teachers to consider alternative ways of optimizing teaching of idiomatic language and prompt further research into the possible applications of imagery processing in language learning.

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APPENDIX 1

Target idioms

Verbal definitions

smell fishy
at a crossroads
take one's chances
food for thought
dead-end street
spin one's wheels
on the rocks
be a toss-up
play one's cards right
hold all the aces
on the back burner
go one's separate ways
the odds are against one
sink one's teeth into something
have an ace up one's sleeve

Etymological information

fill the bill
call someone's bluff
go belly up
spill the beans
cut the Gordian knot
stick to one's guns
bring someone to heel
jump through the hoops
right down someone's ally
hot under the collar
rise to the bait
bark up the wrong tree
be saved by the bell
kill the goose that lays golden eggs
get up on the wrong side of the bed

APPENDIX 2
Task Samples (Abridged)

Stage I

Both conditions

Instructions: Below you will find a list of five idioms that we are going to study in today's lesson. If you are familiar with them, explain their meaning in English or in Japanese. If there are any words you do not know in these expressions, circle them.

smell fishy

at a crossroads

.....

Stage II

Verbal definitions

Instructions: Read the following example sentences and then write the target idiom next to its definition. Compare your answers with a partner.

*That argument **smells fishy**. I don't think we can trust it.*

*We **are at a crossroads** now. We can either buy a home now or continue to rent a place and save for retirement.*

_____ at a point where a choice / an important decision about
future must be made

_____ to give an impression of something dishonest

.....

Etymological notes

Instructions: Read the example sentences below and the information about the origin of the target idioms that follows. Next, write each idiom next to its corresponding definition. Compare your answers with a partner.

1. *Don't tell him anything. He's sure to **spill the beans**.*

Origin: In ancient Greece, when there was a secret vote, white beans were placed in a jar to express support, and black ones to express opposition. Therefore, spilling the beans meant disclosing a secret.

*(Author's translation; in the experiment etymological notes were provided in learners' L1, Japanese)

2. *Never try to reason with him when he's **gotten up on the wrong side of the bed**.*

Origin: Here 'wrong' side means 'left side'. 'Sinister', a Latin word for left, in English became to mean 'unfortunate' in English. This is the origin of a superstition that 'left' means 'bad luck'.

Stage III (Immediate receptive knowledge post-test)

Both conditions

Instructions: Complete the sentences below with a suitable expression from the list. Pay special attention to the verb and pronoun forms.

smell fishy at a crossroads....

1. *Thomas was _____ when he had to decide between going to law school or getting a job.*

2. *Webber's story about what he was doing that evening _____ a bit _____ to me. I don't think he's telling the truth.*

Stage IV (Immediate productive knowledge post-test)

Both conditions

Instructions: Complete the sentences below with a suitable idiom that you have learned today.

1. *When my boyfriend asked me to marry him, I felt like I was _____, and I didn't know what to do.*

2. *His explanation definitely _____; my guess is that he is lying.*

Stage V (Delayed productive knowledge post-test)

Verbal definitions

Instructions: Write the idioms that you learned in the previous lesson next to their corresponding definition.

1. _____ to give an impression of something dishonest
2. _____ at a point where a choice / an important decision about future must be made

Etymological notes

Instructions: Write the idioms that you learned in the previous lesson next to their corresponding definition. The notes about the idiom origin may help you with the task.

1. In ancient Greece, when there was a secret vote, white beans were placed in a jar to express support, and black ones to express opposition. Therefore, spilling the beans meant disclosing a secret.

2. Here ‘wrong’ side means ‘left side’. Latin word for left ‘sinister’, in English became to mean ‘unfortunate’. This is the origin of a superstition that ‘left’ means ‘bad luck’.

(*Note: In the tests, etymological information was provided in learners’ L1, Japanese.)

_____ to disclose a secret

_____ to be in a bad mood from the start of a day.

Stage VI (Delayed receptive knowledge post-test)

Both conditions

Instructions: Write the following idioms next to their corresponding definitions.

smell fishy *at a crossroads.....*

1. _____ to give an impression of something dishonest
2. _____ at a point where a choice / an important decision about