Promoting figurative creativity in EFL/ESL classrooms[1]

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ABSTRACT

This paper describes a small exploratory study into the relative effects of attribute-matching and *gestalt* training on the ability of EFL/ESL learners of English (using Japanese learners of English as subjects) to understand and produce figurative expressions in English, and on their ability to employ figurative creativity in English. The attribute-matching training was found to lead to significant improvements in the students' ability to understand and produce figurative language, whereas the *gestalt* training produced no significant effect. We conclude that it may be useful for FL/SL teachers of English to employ attribute-matching exercises if they want to help their students to understand and produce figurative language in English.

Key words: language learning; metaphor; figurative creativity

I. INTRODUCTION

In English, figurative extensions of word meaning are common. For example, we talk figuratively about 'the first leg of a journey', 'breaking a promise' and 'running through an exercise'. The ability to extend word meanings in this way can widen the range of topics that a language learner can talk about, thus improving their level of communicative competence. When faced with a situation where they need to understand figurative expressions, or an opportunity where they can produce them, learners have recourse to several strategies. They can employ mental imagery; transfer expressions directly from their L1; or work with figurative extensions of their existing vocabulary, which will help them understand and produce a wider range of meanings (Littlemore and Low 2006a, p.25). This last strategy is of interest, as the ability to figuratively extend word meaning in the L2 is likely to have a strong impact on learning, especially if a learner can obtain feedback on his or her figurative utterances and interpretations. It has been suggested that output plays a key role in second language acquisition as it provides the learner with opportunities to test their hypotheses about the target

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language (Swain 2005, pp.478-480). However, it is unlikely that the ability to figuratively extend existing vocabulary will come naturally to all types of learners in all learning settings. One group of learners who may find it particularly difficult to engage in figurative extension activities are Japanese learners of English, who are not generally encouraged to 'play' with the language (see Cook 2004, pp.225-246) or to be experimental in their language classes. It would be beneficial if we could help Japanese learners to engage in figurative thinking as they would then be able to use the vocabulary that they possess to discuss a wider variety of topics. A range of techniques has been suggested that might promote figurative thinking in language classrooms (Littlemore and Low 2006a, pp.27-36; Azuma 2005, pp.295-308) but to date the relative strengths of these techniques have not been tested empirically. The aim of the study described in this paper is thus to investigate ways in which figurative thinking might be promoted in Japanese learners of English. This is particularly timely given the aim of the Japanese Ministry of Education, Culture, Sports, Science and Technology to promote the development of communicative competence in language classrooms throughout Japan. Developing the ability to use English creatively, flexibly and figuratively is likely to contribute to this goal.

How can we promote figurative thinking?

To the best of our knowledge, there have been no empirical studies to date of the relative strengths of the different ways in which figurative thinking might be promoted in language learners. However, there is one study, which was conducted with native speakers, whose findings might be applicable to the second language-learning context. Pitts et al. (1982, pp.356-365) compared the novel metaphor productions of three groups of people, each of whom had received a different set of instructions. All of the participants were asked to think of a match for eight famous people from a set of pre-chosen categories. For example, they were asked to say what kind of animal they thought Dolly Parton would be if she were an animal, or what kind of building Mike Tyson might be. The first group was instructed to carry out this task by identifying characteristics that both have in common (a procedure known as 'attribute-matching'). The second group was first given a series of analogies to solve. For example, they were asked 'As Jimmy Carter is to other presidents, so what animal might he be to all other animals?' They were then instructed to use the same method to try to form analogies between the famous person and the category of items to be used for comparison. The third group was asked to perform an increasingly non-analytic series of *gestalt* reasoning tasks. They were first asked to match six mood adjectives with a series of squiggles. They were then asked to produce linear patterns for sounds made by the experimenter. They were finally asked to produce linear patterns for five people, different from the eight people used in the actual experiment.

Pitts et al. (ibid.) found that the answers given by participants who had received the *gestalt* training were significantly more original and apt than those given by participants who had received the other types of training. The findings from this study suggest that if we want to encourage our students to experiment with the figurative potential of the target language, then it may be worth employing

gestalt warm-up exercises beforehand. On the other hand, it may be that because they are working in a language that is not their first language, language learners would benefit more from one of the other techniques that were tested by Pitts et al. This comparison forms the basis of the study described in this paper. Upon closer inspection of the Pitts et al article, it becomes clear that there are in fact very few differences between the attribute-matching condition and the analogies condition. In our study, we therefore compared just two conditions: an attribute-matching condition and a *gestalt* condition. In order to make this comparison, we used two groups of Japanese lower-intermediate students of English who were matched in terms of proficiency and vocabulary level. The students in one group were given attribute-matching training and the students in the other group were given *gestalt* training.

We were interested in assessing the impact of this training on: their ability to understand figurative expressions in English; their ability to produce them in response to a stimulus; and their ability to use figurative thinking creatively in a slightly more genuine communicative setting. We were also interested in what they thought of the different types of training. The study sought to answer the following research questions:

RQ 1: Are attribute-matching or *gestalt* training exercises better at helping Japanese learners of English to understand figurative expressions in English?

RQ 2: Are attribute-matching or *gestalt* training exercises better at helping Japanese learners of English to produce figurative expressions in English?

RQ 3: Are attribute-matching or *gestalt* training exercises better at helping Japanese learners of English to be figuratively creative in English?

RQ 4: Which type of training do students believe to be more beneficial: attribute-matching or *gestalt* training?

II. THE STUDY

This study was conducted in 2007 at a private university in Western Japan. In the study, two groups of lower intermediate, first and second year students were used: an attribute-matching training group (N=16) and a *gestalt* training group (N=14). Efforts were made to ensure that these two groups were matched in terms of proficiency (using the university's in-house proficiency test). Research has shown that of all the components of L2 proficiency, vocabulary size is the most likely to be related to metaphoric competence (Azuma 2005, pp.288-299). We therefore ensured that participants were matched in terms of vocabulary size, using Schmitt's (2000, pp.192-195) Vocabulary Levels Test. Results from a Mann-Whitney *U* Test showed that there was no significant difference between the two groups in terms of their vocabulary levels, as we can see in Table 1.

All participants in the study were given identical pre- and post-tests, as mentioned earlier. Between the administration of the pre- and post-tests, one group received attribute-matching training exercises and the other group received *gestalt* training exercises. The difference between pre- and post-test performance was then calculated for each group and the statistical

significance of the difference between the two groups was measured. Because of the small number of participants in the study, it must be viewed as exploratory.

Table 1. The homogeneity of the two groups (Mann-Whitney U Test)

	Attribute 1 *Gestalt* 2	N	Mean Rank	Sum of Ranks
Sattribute/*Gestalt*	1	16	15.844	253.500
	2	14	15.107	211.500
	Total	30		

	Attribute / *Gestalt*	
Mann-Whitney U	106.500	
Wilcoxon W	211.500	
Z	-0.229	
Asymp. Sig. (2-tailed)	0.818	
Exact Sig. [2*(1-tailed Sig.)]	0.822(a)	a. Not corrected for ties.

The three pre- and post-tests[2]

As we saw above, the participants were given three pre-tests, in order to test: their ability to understand figurative extensions of word meaning; their ability to produce figurative extensions of word meaning; and their ability to be figuratively creative.

Test 1

In the test designed to assess their ability to understand figurative extensions of word meaning (Test 1), participants were presented with a list of six short expressions, such as 'to pig out' or 'to horse around' or 'to wolf down food' and were asked to think what they might mean. The students were asked to answer either in English or in Japanese.

The comprehension of figurative language involves the psychological processes of: associative fluency; analogical reasoning; and, in some cases, mental imagery (Littlemore and Low 2006a, pp.45-67). Of all the psychological processes involved in metaphor comprehension, associative fluency is the most directly related to creativity (Pollio and Smith 1980, p.376), and is the process most likely to be stimulated by the training exercises. The amount of contextual information in the test items was therefore limited so that the range of interpretations would not be restricted and the potential for associative fluency would be maximised.

It was difficult for us to establish straightforward scoring criteria for this test. On the one hand, we wanted to reward learners for their creativity, but on the other hand, given the EFL context of our study, we also wanted to reward correct usage of English. We therefore adopted a hybrid system in which participants were rewarded for both creativity and for the production of correct usages of English. The participants' responses were thus scored as follows:

0 = The participant produces either no interpretation or an interpretation that is meaningless in

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[2] The three pre- and post-tests are shown in the Appendix.

English and which does not appear to relate to the source term (e.g., 'you can go anywhere' for 'to squirrel one's money away').

1 = The participant produces an interpretation that is similar to the meaning in English but is not quite as rich, and which is fairly prototypical or conventional in Japanese relying on central attributes of the source term (e.g., 'to get fat' for 'to pig out').

2 = The participant produces an interpretation which is correct in English or is creative in a way that suggests a wider search of the source term characteristics has taken place (e.g., 'to be hungry and eat like a wolf that is searching for its prey' for 'to wolf down food').

Test 2

In the productive test (Test 2), participants were given a list of six body parts and asked to think of any possible figurative extensions they might have in English. The domain of body parts was chosen as these are figuratively productive in both English and Japanese. By giving them such an open-ended task, we hoped to maximise their creative productivity. Again, participants were rewarded for both creativity and appropriateness. The responses were scored in the following way:

0 = The participant produces either no expression, or an expression that is not at all figurative, or an expression that is meaningless in both English and Japanese (e.g., 'my best for hands' and 'her leg')

1 = The participant produces a figurative expression whose meaning can be worked out by reference to the central features of the body part in question, but which does not actually exist in English or Japanese (e.g., 'stop your mouth').

2 = The participant produces a figurative expression that either exists in English or is a plausible creative extension of the word that suggests a wider search of the characteristics of the body part (e.g., 'win by a head').

Test 3

In the third test, we aimed to investigate the extent to which participants can use figurative thinking to communicate genuine information. As we said above, we were particularly interested to see whether the participants were able to be figuratively creative in a more communicative setting. In other words, we wanted to assess whether they could use figurative creativity to communicate real meaning via the use of figurative compensation strategies. We were interested to see whether participants could use these types of strategy, and whether the training would encourage them to use them more. We therefore presented them with five obscure pictures of things which could be described using figurative comparisons, and asked them to describe the pictures to an imaginary English speaker. We scored the responses for their explanatory capacity. We found that the most explanatory utterances were often those that were most figuratively creative, but not always. The scoring system used was as follows:

0 = The participant produces either no expression, or an expression that has no explanatory power

whatsoever (e.g., 'it is like my brother' for picture 2)

1 = The participant produces an expression that is somewhat explanatory but which is slightly impoverished (e.g., 'it is like a big apple' for picture 3)

2 = The participant produces an expression that has good explanatory power (e.g., 'This is a big tree that looks like a wave' for picture 5).

The responses for all three tests were scored by two independent judges (one English; one Japanese). Discrepancies occurred in less than 10% of the cases and in these cases, agreement was reached through discussion. The test that caused the most difficulties in scoring was test 3, as the judges perceived different levels of explanatory power in the participants' responses, partly due to their own levels of familiarity with the items chosen for comparison. Generally, the more familiar the judge was with the item chosen, the less they were convinced by its explanatory power. The pre- and post-tests are reproduced in the Appendix.

The training sessions

In the training session, the participants were divided into two groups. The first group was given the attribute-matching training, and the second group was given the *gestalt* training. During the training sessions, it was stressed to the participants that they should attempt to apply what they had learned from the training in their subsequent English classes and tests. Comments from the participants themselves indicate that they were indeed able to see the benefits of the training sessions and that they attempted to apply what they had learned. Details of the training sessions for each of the groups are presented below.

The attribute-matching training

In this session, the students were given a brief introduction to the idea of attributes and of their role in metaphor. After this, they were asked to think of all the attributes that might be activated in the expression, for example, 'my teacher is a witch'. Next, they were asked to match three famous people with a series of shapes, and to list the reasons for their choices. The instruction to list the reasons for their choices was designed to activate detailed consideration of the relevant attributes. It was thus designed to encourage the students to take an explicit, analytical and objective approach to task. In the third exercise, the students were asked to think about the three well-known people and to decide for each, what colour, animal and food they would be, and give reasons for their choice. The rationale for this exercise was that it gave them the opportunity to apply the attribute-matching training that had been developed in the first two exercises.

The *gestalt* training

The students in the *gestalt*-training group were given a similar set of exercises as those in the attribute-matching group, but they were specifically asked not to think about the reasons for their

choices. Thus they were encouraged to rely mainly on intuition. First they were asked to match a series of emotions with a series of shapes. They were then asked to draw their own shapes for a further set of emotions and sounds. Then they were given the same two exercises as the attribute-matching group but they were not asked to explain their choices.

The post-tests

Three weeks after they had completed their respective training, the students were given the same set of tests as they had received in the pre-test session. The aim was to compare the scores on these post-tests with the scores they had received for the same tests before having received the training. We were interested to see which of the two types of training had had a greater impact on the response rates to the figurative thinking tests.

III. RESULTS AND DISCUSSION

The results of the study, which are presented along with their corresponding research questions, are given below. Because of the small numbers of participants, non-parametric tests were used to assess whether any of the levels of improvement were significant on any of the three tests, for either of the two groups.

RQ 1: Are attribute-matching or *gestalt* training exercises better at helping Japanese learners of English to understand figurative expressions in English?

Mean performances on the pre- and post-tests for figurative understanding are presented in Table 2a, and statistical analyses, showing whether the increases in scores made by students in the attribute-matching and *gestalt* groups were significant, are shown in Tables 2b and 2c (the results of Wilcoxon Signed Ranks test, which measured the significance of the difference on pre- and post-test on Test 1). It will be seen that mean scores on the post-test were higher than those on the pre-test for both the attribute-matching and the *gestalt* group. However, as we can see in Tables 2b and 2c, the improvement in the attribute-matching group ($p=0.003$) was found to be significant ($p<0.05$), whereas the improvement in the *gestalt* group was not significant ($p=0.084$). These findings indicate that the attribute-matching training may have been more beneficial than the *gestalt* training in terms of its ability to help learners understand figurative expressions in English.

Table 2a. Pre and post mean scores for attribute-matching and *gestalt* groups on Test 1

	Mean score on pre test	Mean score on post test
Attribute-matching group (N=16)	4.2	5.3
Gestalt group (N=14)	2.3	2.9

Table 2b. Pre- and post-test on Test 1 Attribute-matching group

	Attribute1post - Attribute1pre
Z	-2.941(a)
Asymp. Sig. (2-tailed)	0.003

a Based on negative ranks.

Table 2c. Pre- and post-test on Test 1 *Gestalt* group

	Gestalt 1post - Gestalt 1pre
Z	-1.725(a)
Asymp. Sig. (2-tailed)	0.084

a Based on negative ranks.

RQ 2: Are attribute-matching or *gestalt* training exercises better at helping Japanese learners of English to produce figurative expressions in English?

Mean performances on the pre- and post-tests for figurative production are presented in Table 3a, and statistical analyses, showing whether the increases in scores made by students in the attribute-matching and *gestalt* groups were significant are shown in Tables 3b and 3c.

Table 3a. Pre and post mean scores for attribute-matching and *gestalt* groups on Test 2

	Mean score on pre test	Mean score on post test
Attribute-matching group (N=16)	3.6	6.1
Gestalt group (N=14)	2.7	4.0

Table 3b. Pre- and post-test on Test 2 attribute-matching group

	Attribute2 post - Attribute2 pre
Z	-2.823(a)
Asymp. Sig. (2-tailed)	0.005

a Based on negative ranks.

Table 3c. Pre- and post-test on Test 2 *gestalt* group

	Gestalt 2 post - Gestalt 2 pre
Z	-1.188(a)
Asymp. Sig. (2-tailed)	0.235

a Based on negative ranks.

As we can see in the tables, the increase in the mean score was significant for the attribute-matching group (p=0.005), but not for the *gestalt* group (p=0.235). The attribute-matching training thus appears to have been more beneficial than the *gestalt* training in terms of its ability to help learners produce figurative expressions in English.

RQ 3: Are attribute-matching or *gestalt* training exercises better at helping Japanese learners of English to be figuratively creative in English?

Mean performances on the pre- and post-tests of figurative creativity are presented in Table 4a, and statistical analyses, showing whether the increases in scores made by students in the attribute-matching and *gestalt* groups were significant are shown in Tables 4b and 4c.

Table 4a. Pre and post mean scores for attribute-matching and *gestalt* groups on Test 3

	Mean score on pre test	Mean score on post test
Attribute-matching group n(N=16)	7.1	7.4
Gestalt group (N=14)	5.2	5.2

Table 4b. Pre- and post-test on Test 3 attribute-matching group

	Attribute3 post - Attribute3 pre	
Z	-0.711(a)	
Asymp. Sig. (2-tailed)	0.477	a Based on negative ranks.

Table 4c. Pre- and post-test on Test 3 *gestalt* group

	Gestalt 3 post - *Gestalt* 3 pre	
Z	-1.310(a)	
Asymp. Sig. (2-tailed)	0.190	a Based on negative ranks.

The improvement for this test was not significant for either the attribute-matching group (p=0.477) or the *gestalt* group (p=0.190). These findings suggest that neither type of training led to an improved performance in the figurative creativity test. One reason for this could be the fact that the format of this test was very different from the format of the training sessions, and that the students failed to see the relevance of the training.

RQ 4: Which type of training do students believe to be more beneficial: attribute-matching or *gestalt* training?

Finally, we were interested to see which type of training was perceived to be more beneficial by the students. In order to find this out, we simply asked them to rate on a scale from 1 to 5 (where 1 is not at all useful, 3 is neutral and 5 is very useful) the extent to which they felt that the training had helped them complete each of the three exercises. The results of the perceived effectiveness of training (raw numbers and percentages) are shown in Tables 5a and 5b.

Table 5a. Attribute-matching Group (N=16)

Evaluation	1 (-)	2 (-)	3 (+-)	4 (+)	5 (++)	positive answers
Test 1			5 (31.3%)	8 (50%)	3 (18.8%)	11 (68.9%)
Test 2		1(6.3%)	6 (37.5%)	5 (31.3%)	4 (25%)	9 (56.3%)
Test 3			4 (25%)	8 (50%)	4 (25%)	12 (75%)

Table 5b. *Gestalt* Group (N=14)

Evaluation	1 (-)	2 (-)	3 (+/-)	4 (+)	5 (++)	positive answers
Test 1			5 (35.7%)	8 (57.1%)	1 (7.1%)	9 (64.2%)
Test 2			4 (28.6%)	8 (57.1%)	2 (14.3%)	10 (71.4%)
Test 3		1 (7.1%)	7 (50%)	3 (21.4%)	3 (21.4%)	6 (42.8%)

As we can see in Tables 5a and 5b, the students in the attribute-matching group appeared to find the training more useful (average percent of positive answers: 67%) than those in the *gestalt* group (average percent of positive answers: 59%). This is perhaps to be expected as the attribute-matching breaks down the process of figurative thinking into clear, manageable steps, whereas *gestalt* training is somewhat vague. The students in both groups made positive comments about the training but those in the attribute-matching group were particularly positive. Several students commented that: 'It's fun to think about people and why I might associate a certain shape with these people, for example Ichiro (a baseball player). He is clean and he seems to be a straightforward person. His hit is like a straight line. David Beckham, his image is cool; he gives us the image of a sword, i.e. a manly-image'. Another commented that: 'It was interesting, because we could see something hidden in the meanings of word and shapes. I think it is useful but at the same time interesting'. They also enjoyed the testing sessions. One student commented that: 'It is hard to write something about the picture, because when writing in English, I have to know the words and think about a sentence structure, but if my imagination and writing go together, it is fun'.

IV. CONCLUSION

Although this is a small, exploratory study whose findings need to be treated with caution, it does indicate that, of the two approaches, attribute-matching appears to be more effective than *gestalt* training in terms of its ability to aid the comprehension and production of figurative language in second/foreign language learners. One reason for this may have been that the attribute-matching training makes the process of figurative thinking much more explicit and transparent and breaks it down into manageable steps. In the attribute-matching training sessions, the students were explicitly told to think about the characteristics of the source and target domain terms, and to specifically identify those that were transferable from one to the other. This is a strategy that they could perhaps acquire more mechanically, and apply to other circumstances. The *gestalt* training, on the other hand, is a more intuitive and much less tangible approach and does not involve a step-by-step procedure. Nothing is really 'explained' to the students. They are therefore more likely to have formed unanalyzed connections between the shapes and the sounds. More longitudinal research into the effects of the *gestalt* approach, and a greater understanding of the intuitive factors in language learning may make students, teachers and researchers more aware of its possible strengths. Neither of the two types of training was found to promote more general figurative creativity, as measured by our pictures test. This could be because the pictures test could be completed effectively without

figurative thinking, as students could simply provide good literal answers to the questions. The use of figurative thinking in this activity is therefore a matter of choice, and a student's preferred thinking style is not always related to their ability to think figuratively (Littlemore 2001, p.485).

Future research could usefully investigate whether the results found in this study also hold for metaphor comprehension and production in context. Although the presence of contextual limitations would limit the number of interpretations and productions that are acceptable, it would add an important degree of authenticity to the study. Although it is undoubtedly useful to teach students to be creative, they also need to be aware of the conventional usages of figurative language that have been identified by Deignan (2005). It would also be useful to teach them appropriate signalling devices that they can use for more creative or unusual usages of language (Cameron and Deignan 2003, p.154).

A final further step might be to investigate the ways in which language learners can be helped to use figurative language to negotiate with others, and communicate persuasively. In the domains of business and politics, the ability to manipulate figurative language has been found to make a substantial contribution to one's ability to perform these functions (e.g. Morgan 1996, p.10). If such training were successful, university graduates who were able to use figurative language would then be able to use their English more effectively in the global arena.

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APPENDIX The pre- and post-tests

Test 1. Understanding figurative extensions of word meaning

In English, many animal nouns can be changed into verbs, and take on a figurative meaning. For example, the word 'snake' can form the verb 'to snake' which means to curl round like a snake (he snaked his arm around her back). What do you think the following expressions might mean?

1. To pig out   2. To dog someone   3. To monkey around   4. To wolf down food

5. To horse around   6. To squirrel one's money away

Test 2. Producing figurative extensions of word meaning

Many words for body parts in English can be extended to talk about things metaphorically. For example, we can use the word 'foot' figuratively to talk about the foot of a mountain (meaning the bottom of a mountain). Can you think of any possible figurative extensions that the following words might have (in some cases you may have to change the part of speech)?

1. Hand   2. Leg   3. Head   4. Eye   5. Nose   6. Mouth

Test 3. Communicative competence

Describe to an imaginary English-speaking listener what is in each of the following pictures.
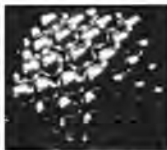
1.   2.   3.   4.   5.