Shared Identities: Our Interweaving Threads

Access to Japanese mimetic words

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This paper examines whether it is necessary to teach Japanese mimetic words (JMWs) to learners of L2 Japanese. Underlying this study is *sound symbolism*—the symbolic relationship between the sounds and meanings of words that has been discussed among researchers. An empirical survey was conducted by the author to examine to what extent learners and non-learners can predict the meanings of JMWs. Based on the results, it was revealed that to predict the meaning of JMWs accurately is difficult. Therefore, it can be concluded that learners of Japanese should study JMWs.

この論文は、日本語の擬音語・擬態語（本稿ではJapanese mimetic words、略してJMWs）を日本語学習者に教えることの必要性を検証することを目的とする。本研究は、多くの研究者によって議論されてきた音象徴（音韻と意味のつながり）の存在が基礎となっている。筆者は、日本語学習者と非学習者（本研究ではどちらのグループもドイツに住むドイツ語母語話者）がJMWsの意味をどの程度まで予測しうるかを明らかにするため、実証研究を行った。収集されたデータ分析の結果、JMWsの予測は困難であることが明らかになり、JMWsの学習の必要性が認められた。

Japanese mimetic words (JMWs) are known as *giongo (giseigo)*, or onomatopoeia (e.g., dogs bark *wan-wan*), and *gitaigo*, or mimesis (e.g., stars shine *kira-kira*). They are indispensable in vivid and precise descriptions and narratives in Japanese (Kakehi, 2001, cited in Iwasaki, Vinson & Vigliocco, 2007), and accordingly they are frequently used in both everyday life and literature (Schourup, 1999). Mikami (2005) points out that although they play an important role in Japanese, they are not treated suitably in Japanese instruction.

Teaching JMWs to learners of L2 Japanese has been receiving great attention (for example, see a special issue on this in *Nihongogaku* in 2007) and has repeatedly been discussed by researchers and practitioners of Japanese pedagogy, especially with respect to such topics as timing of introduction. Mikami (2005) and Moriyama (2006) investigated the actual treatment of JMWs and presented their views on the optimum timing for introducing JMWs to learners; their opinions differ from each other but both of them pointed out that JMWs are not actively taught to the learners at the beginning level although they often encounter JMWs

in authentic materials (e.g. novels and dialogues) at the advanced level.

However, upon consideration of sound-meaning relationship (see the following section), the necessity of teaching JMWs to the learners of Japanese must first be considered. Thus, the aim of this study is to examine whether it is necessary to teach JMWs to learners of the Japanese language.

Sound-meaning relationship in JMWs

Iwasaki, Vinson, and Vigliocco (2007) stated that "the relation between word form and meaning is considered arbitrary; however, Japanese mimetic words, *giseigo* and *gitaigo*, are exceptions" (p. 53). With respect to JMWs' sound-meaning relationship, they point out two possibilities: *universal sound symbolism* and *culture specific associations*, explained by them as follows (italics added):

> Some linguists argue that this sound-meaning correspondence that native Japanese speaker's sense is primarily due to associations among Japanese words and meanings that they have learned over time, associations which, therefore, are *culture-specific*. … Some scholars have suggested that there exists *universal sound symbolism*. For example, the vowels /i/ and /a/ are broadly associated with smallness and largeness respectively. (Iwasaki, Vinson, & Vigliocco, 2007, p. 55)

If universal sound-symbolism does exist in JMWs, the learners may be able to sense their meanings from their phonetic features, so that they do not necessarily have to study JMWs. If it does not exist, however, learners cannot sense the meanings of mimetic words from phonetic features and have to study them. Furthermore, one crucial question arising from previous studies is whether or not the sound symbolism is the only clue for the learners of Japanese to predict the meaning of JMWs. This study assumes that contextual information would also help the learners understand their meanings since they do not seem to be completely isolated from a context. Thus, the study also deals with the relation between context and meanings as well as between sound and meanings in JMWs.

Some researchers have examined whether Japanese non-native speakers could decipher any aspects of JMWs, and whether JMWs and their meanings are arbitrary, by using a semantic differential (SD) method. This is a method "to judge words or other stimuli along a number of scales between paired-opposite concepts" (Asher, 1994, p. 3800). For instance, the above-quoted Iwasaki, Vinson, and Vigliocco (2007) conducted an empirical study by using the SD method and compared how English speakers (with no prior Japanese learning experience) and native Japanese speakers would feel when they listened to JMWs for "laughing" and "walking". The result identified the existence of sound-meaning relationships, especially in JMWs for "laughing". As for JMWs in other semantic categories, it is still by no means clear whether a sound symbolic relation exists.

Research questions

Based on the literature review in the preceding section, the following research questions are addressed:

(1) To what extent can learners/non-learners of L2 Japanese predict meanings of JMWs from their phonetic features?

(2) Can the learners/non-learners predict their meanings more accurately if the JMWs are presented with contextual information?

(3) Is their prediction influenced by the length of time spent learning Japanese?

(4) Is their prediction influenced by semantic categories of JMWs?

Method

Participants

The participants in this study are classified into three groups: learners (Ls), non-learners (NLs), and Japanese native speakers (JNSs). The L group consists of 27 learners of Japanese as a foreign language. They are students of Hunboldt Universität zu Berlin. Taking a Japanese class 5 hours a week, they had been studying it from 6 months to 2 years. Their teacher explained that they had never learned JMWs in the class. The NL group was made up of 22 Japanese non-learners. The participants in both groups were German native speakers living in Germany. Finally, the JNS group contained 22 adults living in Japan. Table 1 below summarizes the participants in this study.

Table 1. Participants

German Native Speakers			Japanese Native Speakers (JNS, N=22)
Learners (L, N=27)		Non-Learners (NL, N=22)	
Short Learners (SL)	Long Learners (LL)		

Test items

Categories

Iwasaki, Vinson, and Vigliocco (2007) examined JMWs in two categories concerning those for laughing (onomatopoeia) and walking (mimesis); however, onomatopoeia and mimesis cannot be completely separated because some items contain various meanings (e.g., zaa-zaa imitates the sound of raindrops; at the same time, it expresses a scene of a heavy rain).

Therefore, in this study, JMWs in four semantic categories that differ from each other in their degrees of concreteness/abstractness were observed. The first category is the JMWs that imitate sounds. An example in this category is the JMW *kara-kara*: a can containing a piece of candy is shaken, it makes the sound *kara-kara*. The JMWs in this category are considered to be highly concrete. The second is the category of JMWs that describe how people talk. They partially represent sound features of the talking action and, at the same time, they represent attitudinal features of the action. For example, to speak *hiso-hiso* describes whispering in a situation where we cannot speak loudly and, moreover, it gives a negative impression to the interlocutors. The third category contains JMWs that describe how we feel if we touch an object. For instance, we feel *zara-zara* when we touch a sandy floor. The last category

represents mimetic words that describe personal emotions. For example, *waku-waku* is used in a situation where we expect the appearance of something special. This category is the most abstract, in that emotions cannot be heard, seen or touched.

Test JMW items

Test JMW items were selected according to these four semantic categories. Furthermore, in their selection, only JMWs in a XYXY-form (e.g., ka-ra-ka-ra), where the same syllabic sounds are repeated, were selected because this is the most common JMW type (30% of all JMWs, according to Tanno (2005)). Then, three pairs of JMWs (six words in total) were allotted to each category as presented in Table 2. Two words in each pair are minimal pairs, and they differ from each other in the first and the third morae (e.g., *kara-kara/gara-gara*). Of the three pairs in each category, two words were also tested by offering contextual information in two sentences (see Appendix 1).

Table 2. Test items

categories		JMWs (without context)	JMWs (with context)	pairs of adjectives
↑ concrete	1 sound	*kara-kara/gara-gara* *ton-ton/don-don* *pata-pata/bata-bata*	*kara-kara* *gara-gara*	heavy/light
				low/high
				small/big
				blunt/sharp
	2 talking manner	*pera-pera/bera-bera* *hiso-hiso/boso-boso* *potsu-potsu/butsu-butsu*	*pera-pera* *bera-bera*	dejected/cheerful
				quiet/loud
				not fluent/fluent
				not funny/funny
	3 tactual sense	*fuwa-fuwa/gowa-gowa* *sara-sara/zara-zara* *neto-neto/gito-gito*	*sara-sara* *zara-zara*	not sticky/sticky
				dry/damp
				soft/hard
				dirty/clean
abstract ↓	4 emotion	*uki-uki/doki-doki* *waku-waku/biku-biku* *hoku-hoku/zoku-zoku*	*doki-doki* *waku-waku*	negative/positive
				sad/happy
				nervous/relaxed
				cowardly/courageous

Adjective pairs

To examine to what extent Ls and NLs could decipher JMW meaning by using the SD method, several pairs of adjectives that are semantically opposite (e.g., heavy vs. light) were chosen for the meaning judgment of JMWs. Four pairs were selected for each category on the basis of a pilot study (conducted in March 2008). The response scale for the participants' judgment ranged from minus two to plus two (e.g., heavy/-2/-1/0/1/2/light).

Data collection

In the actual SD survey, the participants listened to each JMW twice and rated it on the five-point rating scales according to their impression of it.

The purpose of this test, directions for answering and the explanation of the four categories were shown at the top of the test form. Prior to the actual questions, the participants were presented with a trial question. They were also asked to report their mother tongue and their experience of learning Japanese.

Data analysis

The data (SD responses) collected from the participants were analyzed in the following ways:

(1) Semantic orientation

(2) Accuracy of meaning prediction

The details of these two analysis methods are explained below.

Step 1 - Evaluation of each item (adjective pair)

First, the means of all JMW items measured by the adjective pairs were calculated. Second, all the means were checked to see if they were positive (+) or negative (-) in value. These +/- directions were termed "semantic orientations" in this study. Third, the means of the JNS group were compared with those of the L group and those of the NL group. If the mean of a certain adjective pair in one group and that in the other group were both positive, they were regarded as facing the same direction. In this analysis, such items were counted.

The semantic orientation is, however, not based on statistical tests and it only shows a rough tendency in terms of whether the Ls and NLs could sense the meanings of JMWs similarly to the JNSs. To examine their response patterns more accurately, a statistical analysis was desired; a non-parametric Mann-Whitney test was conducted in Analysis 2. The significant level was set at the 5% level in this analysis, and those items that did not yield any statistically significant difference between the JNS group and the German groups were regarded as being judged in the same way as the JNSs.

Step 2 - Evaluation of each JMW

In this way, all JMWs were examined regarding the number of items that are facing the same direction (Analysis 1) and the number of items that show no statistical difference from the JNS responses (Analysis 2). Because each JMW was judged based on four items (adjective pairs), clear cutoff criteria were needed to judge the likeliness and unlikeliness of judgment between the JNS group and either one of the other groups.

These criteria were set as follows. In Analysis 1, each JMW was assessed by the number of items facing the same direction. If all four or three out of the four adjective items (i.e., 75% or more) faced the same direction, it was regarded that the group could sense the meaning of the JMW the same as the JNSs. On the other hand, if the JMW had fewer items than three (i.e., below 75%), it was considered that the non-native speakers could not manage to sense the meaning of a JMW. Similarly, in Analysis 2, each JMW was assessed by the number of adjective items with no statistical difference from the JNSs. The cutoff point was set exactly the same as Analysis 1. Shown in Table 3 is an example of the judgment outcome of a comparison between the JNS group and the NS group regarding the JMW *kara-kara*.

In the Analysis 1 above, three items facing the same direction were identified, so the word *kara-kara* was judged as its meaning being judged roughly the same as the JNSs. In Analysis 2, the word had two adjective items with no statistical significance; therefore, it was judged that its meaning was not predicted as accurately as by the JNSs. Based on these results, for the word *kara-kara* it was concluded that the NLs could sense the rough meaning of this word but could not predict its accurate meaning.

Table 3. One example of how to evaluate the word

(1) Semantic orientation					
JMW	adjective pairs	means of JNSs	means of NLs	evaluation of each item	evaluation of the word
kara-kara	heavy/light	1.55	0.45	*	○
	low/high	0.86	-0.05		
	small/big	-0.45	-0.41	*	
	blunt/sharp	0.23	0.23	*	
(2) Accuracy of meaning prediction					
JMW	adjective pairs	result of M-W test (p)		evaluation of each item	evaluation of the word
kara-kara	heavy/light	0.000			×
	low/high	0.001			
	small/big	0.893		+	
	blunt/sharp	0.908		+	

N.B. *= agreement in semantic orientation, += no statistical difference from the JNS responses, ○ = agreement in more than three adjective pairs (higher than 75%), × = agreement in fewer than three adjective pairs (lower than 75%)

Results

In this section, results obtained from the research are presented according to the order of the above-mentioned research questions one to four.

Prediction of JMWs from phonetic features

Figure 1 displays the outcome of the prediction of JMWs from their phonetic features by NLs and Ls. The two bars on the left of the figure represent the result of Analysis 1 (semantic orientation), while those on the right show the result of Analysis 2 (accuracy of prediction).

Over 40% of the JMWs faced the same direction as JNSs in the judgments of both the NLs and by the Ls. However, the rate of accurate prediction of JMWs meanings was low, especially in the L group. From these results, it could be concluded that the meanings of JMWs can be grasped roughly by non-native Japanese speakers regardless of their learning experiences, but it was almost impossible for the non-native speakers to predict JMW meanings accurately from the sounds associated with them.

Comparison between JMWs prediction with or without contextual information

Figure 2 displays the result of comparison of JMW meaning prediction between the sound-only condition and the contextual-information condition. (NLs and Ls were woven together for the clear examination). Similar to Figure 1, two bars on the left show the results of Analysis 1, and the two bars on the right, those of Analysis 2. The JMWs compared

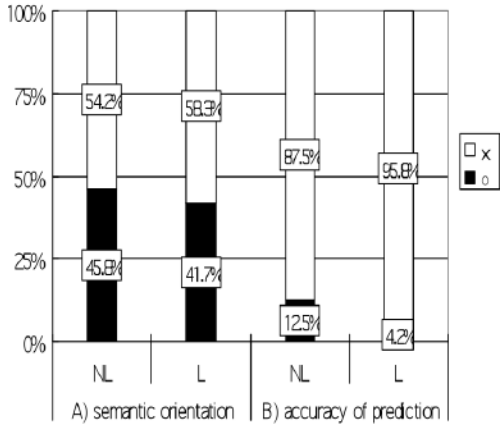

Figure 1. Prediction of JMWs from phonetic features

in this study include are: *kara-kara; gara-gara; pera-pera; hiso-hiso; sara-sara; zara-zara; doki-doki;* and *waku-waku*.

As seen in the graph, the number of JMWs facing the same direction was doubled under the contextual-information condition. Despite these findings, the rates of accurate meaning prediction decreased from 13% to 0 %. These obstacles of prediction were identified in JMWs such as *zara-zara*. The judgment of an item (an adjective pair of "sticky/not sticky") for *zara-zara* changed appreciably when the word was presented with sentential information "Sugar spilled onto the floor. The floor with sugar is *zara-zara*." It is conceivable that the word "sugar" gave the respondents a sticky impression, although the judgment of it by JNSs did not change a lot.

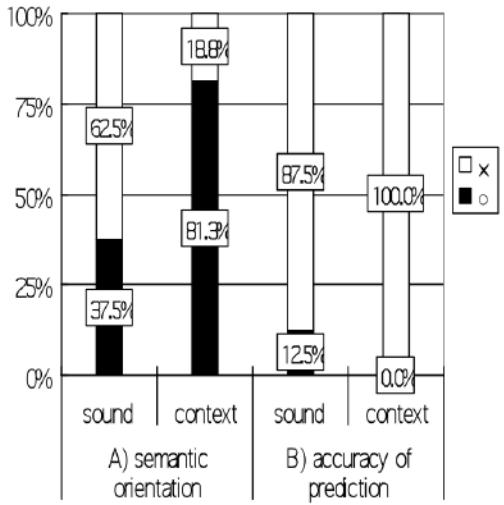

Figure 2. Comparison between JMWs prediction with or without contextual information

Influence of the length of time spent learning Japanese

To examine whether the length of time spent learning Japanese influenced the meaning prediction of JMWs, the learners were divided into two groups: a long-learner group (LLs, *N*=15) and a short-learner group (SLs, *N*=12). The length of time learning Japanese is one to two years for the LL group and about six months to one year for the SL group. The results of these three groups, including these two groups and the NLs (*N* = 22), were compared.

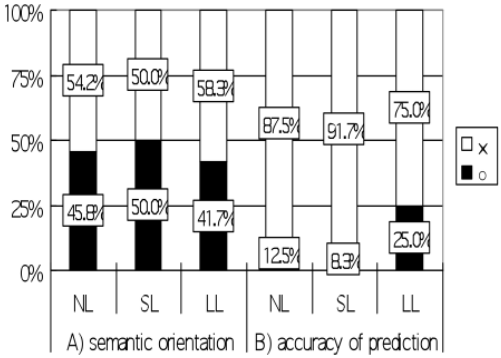

Figure 3. Each length groups' prediction of JMWs

Figure 3 represents the outcome of the JMW meaning prediction by NLs, SLs and LLs from their phonetic features. The three bars on the left side are the result of Analysis 1 and the three bars on the right are those of Analysis 2.

All the groups could sense rough meanings of JMWs, but they could predict very few JMW meanings accurately. LLs could predict them slightly more accurately than the other two length groups, or they may have already known some words.

Influence of semantic categories

Finally, to examine whether the semantic categories influenced the meaning prediction of JMWs, NLs and Ls were put together and calculated to clearly see the differences of meaning prediction among categories. Figure 4 shows the result of the meaning prediction of JMWs from

their phonetic features. The four bars on the left side are the result of Analysis 1 and the other four bars on the right are the result of Analysis 2.

The German participants (both NLs and Ls) could sense JMW meanings roughly, but they could predict only a few mimetic words accurately. More precisely, JMWs in category one (sound) could be predicted most accurately (33%) but those in category two (talking manner) could not be predicted so accurately (only 8%) and none of the words in non-sound related categories (categories three and four) were predicted accurately. In conclusion, mimetic words in sound related categories were predicted more accurately than non-sound related categories, even though there were only a few mimetic words predicted accurately overall.

Discussion

Based on the results of the preceding section, an attempt is made in this section to answer the four research questions.

RQ1. To what extent can learners/non-learners of L2 Japanese predict meanings of JMWs from their phonetic features?

The answer is that it was possible but difficult for Ls and NLs even to grasp the rough meaning of JMWs relying only on their phonetic features, and an accurate prediction was almost impossible.

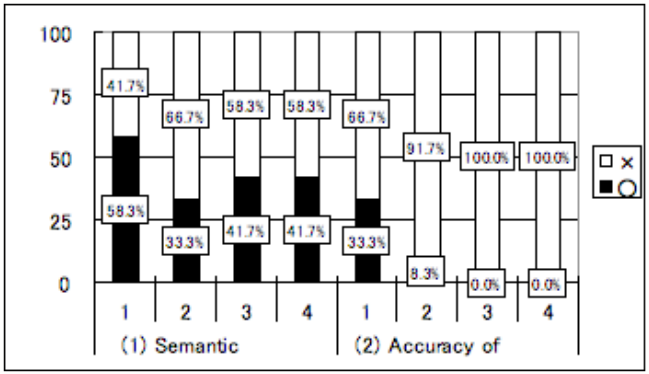

Figure 4. Comparison of JMW meaning prediction among categories

RQ2. Can the learners/non-learners predict their meanings more accurately if the JMWs are presented with contextual information?

The answer is partially yes. That is, the contextual information helped Ls and NLs sense the rough meaning of JMWs, but such contextual information was not a decisive factor to predict their meaning more accurately. In fact, contextual information sometimes interfered with their accurate prediction. The possible reason for this is that the content of contextual information has a strong influence on the meaning prediction of unknown words in a foreign language more than the native speakers of the language expect.

RQ3. Is their prediction influenced by the length of time spent learning Japanese?

LLs could predict JMW meanings slightly more accurately than NLs and SLs. It is unclear if LLs could predict the meanings from phonetic features genuinely or they already knew some words. However, the possibility that this result was caused by their learning experiences of Japanese cannot be denied. Therefore, the answer to research question three is that the length of time learning Japanese does not influence the prediction of JMW meanings very much because the amount of JMWs that LLs could predict was considerable.

RQ4. Is their prediction influenced by semantic categories of JMWs?

The answer is affirmative since the predictability differed by the concreteness of JMWs. The meaning of JMWs in all categories could be sensed roughly; however, most of them could not be predicted accurately. Specifically, JMWs in category one could be predicted accurately, but those in other categories, especially in non-sound related categories (categories three and four), failed to be predicted accurately. These results mean that the meanings of JMWs in the most concrete category were the easiest to predict.

Conclusions and future research

Using an SD method, JMW meaning predictions by non-native Japanese speakers were examined in this study. As a result, it was found that it was possible for both Ls and NLs to sense the rough image of JMWs to some extent but it was almost impossible for either of them to predict JMW meanings accurately even they were presented with contextual information. The only exception was the JMWs in category one (sound), the most concrete category which imitated sounds. Therefore, the findings of this study indicate that JMWs (especially those in non-sound related categories) need to be taught to the learners of Japanese since audio- and/or contextual clues are not enough to predict their meanings.

Regarding future research, to examine whether the length of time spent learning Japanese has an influence on meaning prediction of JMWs more precisely, learners with more experience of learning Japanese should be involved. Furthermore, it is necessary to ask the participants if they already knew the JMW and have a closer look at where they learned it.

Second, the content and the form (e.g. sentence, comics, photos or video) of contextual information should be reconsidered because it was revealed that the contextual information has a more considerable influence on the JMW meaning prediction than the author expected.

Finally, the issues of timing for introducing JMWs should be examined further, especially with respect to whom, how, and which words. In that case, the fact that the needs for learning JMWs could differ from learner to learner according to their learning circumstances (such as learners of Japanese as a foreign language and learners of Japanese as a second language) also should be considered.

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Appendix 1

The contextual information for JMWs

1	karakara: キャンディがひとつだけ入っている缶をふった。すると、からからと音がした。 Ich schüttelte eine Dose mit einem Bonbon. Da machte es „karakara“. I shook a can which contained a piece of candy. It made the sound “karakara”.
	garagara: コンクリートのへいが大きな地震で崩れた。そのとき、がらがらと音がした。 Durch ein großes Erdbeben zerfiel eine Betonmauer. Da machte es „garagara“. A concrete wall fell down in a big earthquake. It made the sound “garagara”.
2	perapera: Tomoko は10年間イギリスに住んでいる。だから、英語をぺらぺら話す。 Tomoko wohnt schon seit 10 Jahren in England. Deshalb spricht sie Englisch „perapera“. Tomoko has lived in the U.K. for 10 years, so she speaks English “perapera”.
	hisohiso: 生徒たちは授業中 騒ぐと怒られる。だから、ひそひそ話している。 Schüler werden gescholten, wenn sie während des Unterrichts Lärm machen. Deshalb sprechen sie „hisohiso“ miteinander. Students get scorched if they make a noise during the lesson. So they speak “hisohiso” with each other.
3	sarasara: 乾いた砂が手からこぼれた。その砂は、さらさらしている。 Ich lasse trockenen Sand durch meine Hände rinnen. Es fühlt sich „sarasara“ an. I let dry sand run through my hands. It feels “sarasara”.
	zarazara: さとうがこぼれて床に散らばった。その床は、ざらざらしている。 Zucker wurde auf dem Boden verschüttet. Der Boden mit dem Zucker fühlt sich „zarazara“ an. Sugar was spilled onto the floor. The floor with sugar on it feels “zarazara”.
4	dokidoki: Kenはスピーチ大会でステージに立ったとき緊張した。彼は、どきどきした。 Als Ken bei einem Vortrags-Wettbewerb auf der Bühne stand, war er angespannt. Er empfand „dokidoki“. While standing on the stage in a speech competition, Ken felt nervous. He felt “dokidoki”.
	wakuwaku: その子供は明日の入学式が楽しみだ。子供は、わくわくしている。 Das Kind freut sich auf seinen ersten Schultag morgen. Es empfindet „wakuwaku“. The child is looking forward to his first day of school tomorrow. He feels “wakuwaku”.