

John Benjamins Publishing Company



This is a contribution from *Integrating Gestures. The interdisciplinary nature of gesture.*

Edited by Gale Stam and Mika Ishino.

© 2011. John Benjamins Publishing Company

This electronic file may not be altered in any way.

The author(s) of this article is/are permitted to use this PDF file to generate printed copies to be used by way of offprints, for their personal use only.

Permission is granted by the publishers to post this file on a closed server which is accessible to members (students and staff) only of the author's/s' institute, it is not permitted to post this PDF on the open internet.

For any other use of this material prior written permission should be obtained from the publishers or through the Copyright Clearance Center (for USA: www.copyright.com).

Please contact rights@benjamins.nl or consult our website: www.benjamins.com

Tables of Contents, abstracts and guidelines are available at www.benjamins.com

A cross-linguistic study of verbal and gestural descriptions in French and Japanese monolingual and bilingual children

Meghan Zvaigzne, Yuriko Oshima-Takane, Fred Genesee¹
and Makiko Hirakawa²
McGill University¹ and Bunkyo University²

This study investigated whether the presence of mimetics (sound-symbolic words) in language influences children's verbal and gestural descriptions by comparing monolingual and bilingual speakers of Japanese and French. Mimetics are present in Japanese, but not French (Kita 2008). 4 to 6-year-old children described motion and object characteristics to an experimenter during a referential communication task. Verbal descriptions were coded as precise or imprecise and produced with or without mimetics and/or iconic gestures. Mimetics and gestures were used frequently in Japanese, particularly for motion descriptions. Bilinguals patterned like monolinguals, except when speaking Japanese they used more imprecise descriptions and fewer mimetics. This shows that presence of mimetics in language and frequent exposure to them promotes their use in conjunction with gestures.

Keywords: Iconic gestures, verbal description, cross-linguistic comparison, bilinguals.

1. Introduction

Children's and adults' speech is frequently accompanied by spontaneous hand and arm movements, called co-speech gestures (Mayberry & Nicoladis 2000, McNeill 1992). McNeill (1992) postulated that speech and gesture are closely related and that both are integral to understanding the speaker's message. Gestures, in particular, often convey more precisely the imagistic components of a message. Hence, gestures relate semantically to the speech they accompany, and they may or may not express the same information. One type of semantically related gestures is iconic gestures. These gestures refer to concrete things like events or objects (e.g. moving a hand continuously in a

circle while saying *he is rolling*). The present study investigated whether the precision of children's verbal descriptions and their use of iconic gestures were influenced by (1) the specific language spoken, (2) whether the speaker was monolingual or bilingual, and (3) the type of information described.

Languages vary in the extent to which they contain highly imagistic words (e.g. onomatopoeia). For example, Kita (2001) reports that the use of mimetics, sound symbolic words, is frequent in Japanese (*giongo/gitaigo*). Mimetics are a class of words that vividly encode information about physiological, psychological, and affective states (e.g. heavy, tired, negativity) and events (e.g. repetition, manner of movement) experienced via all sensory modalities (e.g. vision, touch). Kita found that Japanese-speaking adults produced iconic gestures with a mimetic 95% of the time. Allen et al. (2007) found that Japanese-speaking children and adults used mimetics, but did not examine gesture use. The present study investigated whether the availability of mimetics in a language can contribute to children's verbal descriptiveness and use of iconic gestures by contrasting two languages (Japanese and French) that differ in this respect. Japanese has many mimetics, whereas French has few words (onomatopoeias) that could be considered to have mimetic properties (Kita 2001, 2008).

In this study, we also wanted to compare monolingual and bilingual children's verbal and gestural descriptions. With bilinguals, it is possible to compare performance in two languages within the same individual while controlling for cognitive ability and cultural experience (Nicoladis 2002). We investigated whether French-Japanese bilinguals would speak and gesture like French and Japanese monolinguals when using each language. If bilinguals follow language-specific patterns, we would have further support that the properties of one's language influence how one uses speech and gesture to describe things. Furthermore, by comparing bilinguals and monolinguals, we can examine whether language ability relates to verbal descriptiveness and iconic gesture use. The language ability of bilinguals may differ from that of monolinguals insofar as they may have smaller vocabularies, often due to their reduced exposure to one or both of their languages. This could result in less descriptive speech by bilinguals. Gestures may thus be used to compensate for lower language ability, and bilinguals might be expected to use more gestures than monolinguals, at least in their less proficient language (Nicoladis 2007).

People's descriptions may also be affected by what they are describing and, in particular, how they describe animated motion events (Kita & Özyürek 2003; McNeill & Duncan 2000; Özyürek, Kita, Allen, Furman, & Brown 2005; Stam 2006, 2008). These researchers found that the information expressed in gestures often mirrored that expressed in speech (i.e. path or manner of movement), but gesture sometimes conveyed additional information (e.g. path, manner, direction). No systematic cross-linguistic studies have examined speech and gesture use for object descriptions. However, we know that English-speaking children and adults gesture about an object's shape, size, and position (Church & Goldin-Meadow 1986, Holler & Beattie 2003,

Riseborough 1982). Moreover, the information in gesture does not always match that conveyed in speech (Church & Goldin-Meadow 1986). In the present study, we compared descriptions of motions and objects by French and Japanese speakers to investigate whether the type of information being described would affect the children's verbal and gestural descriptions. Descriptions were elicited using a referential communication task (RCT) where children described the difference between two animated animal cartoons to an experimenter. The cartoons differed in one characteristic: the manner of the animal's movement (motion characteristic), or the shape or size of the animal (object characteristic).

We hypothesized that iconic gestures would accompany Japanese verbal descriptions more frequently than French verbal descriptions because Japanese speakers frequently use mimetics, while French has few such words (Kita 2001, 2008). Descriptions by monolinguals and bilinguals were expected to differ only if the groups differed in language proficiency to a degree that would influence performance on the RCT. If bilinguals could not verbally describe the scene characteristics, they might compensate with increased use of gestures (Gullberg 1998). Furthermore, it was expected that the dynamic nature of motion events would result in higher gesture use when children described motions compared to objects.

2. Methods

2.1 Participants

Eleven French-Japanese bilingual (7 male, mean age 5:8, range 4:2 to 6:7), 12 French monolingual (3 male, mean age 5:0, range 4:1 to 6:7), and 12 Japanese monolingual (4 male, mean age 5:4, range 5:0 to 5:10) children participated. Four of the bilingual children were French-dominant, four were Japanese-dominant and three were balanced according to their vocabulary size in each language as assessed with the Expressive One-Word Picture Vocabulary Test (Academic Therapy Publications Inc., 2000). The bilinguals were recruited from a Japanese language school and Japanese culture center in Montréal, Canada. The French monolinguals were recruited from a participant database of families living in the greater Montréal area, and the Japanese monolinguals were recruited from a daycare in Tokyo, Japan. To be included in the study, the bilingual children's exposure to French and Japanese had to total to 90%, and they had to be able to perform the RCT when using each language. The monolinguals had to have been exposed to their respective language at least 90% of the time. All monolinguals met this criterion, but due to difficulties in finding age appropriate French-Japanese bilinguals, we included two bilingual children who were exposed to French and Japanese for a total of 70% to 80% of the time (and thus had exposure to another language 20% to 30% of the time).

2.2 Materials and apparatus

The RCT used to elicit verbal and gestural descriptions consisted of eight pairs of animated cartoons that differed on one scene characteristic related to the animal depicted in the cartoon. Four pairs differed with respect to the animal's motion characteristics (manner of movement) and four differed with respect to the animal's object characteristics (shape, size). See Figure 1 for example cartoon pairs and Table 1 for the scene characteristics of each cartoon pair. Two sets of cartoons were created because the bilinguals performed the task twice (once in each language). One set was used for all French sessions (monolinguals and bilinguals), and the second was used for all Japanese sessions. The animals and backgrounds differed in each set, but the scene characteristics remained the same. Three practice pairs were created to give the children experience with each type of scene characteristic.

During the experiment, the child and experimenter sat facing each other at a small table. The experimenter viewed the cartoons on a Dell Inspiron laptop, which was connected to an LCD ViewSonic monitor on which the child viewed the cartoons. A Javascript program displayed the animated cartoons side by side on the screens, and a yellow star was placed above the target cartoon. The child was instructed to describe the scene characteristics so that the experimenter could guess the target cartoon. The animations played repeatedly until the experimenter "guessed" by pressing a key to indicate her choice.

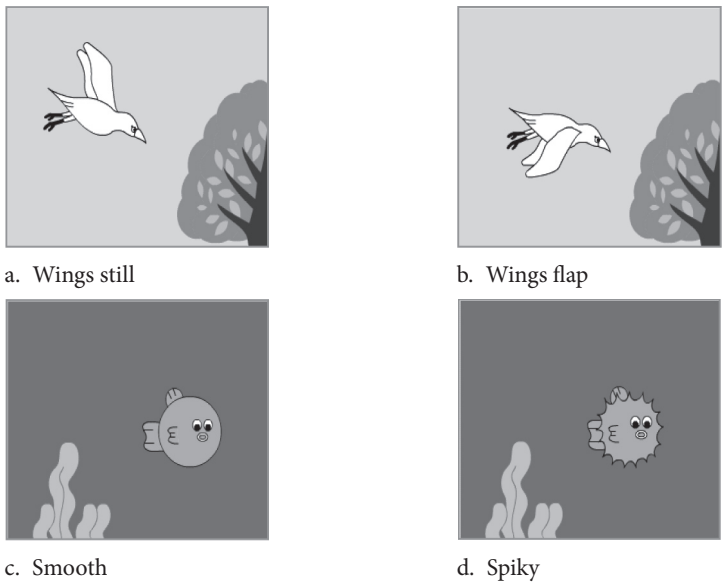


Figure 1. Still image examples of cartoon pairs depicting the animals' (a, b) motion characteristics and (c, d) object characteristics.

The experiment also had two visibility conditions. In half the trials, the child and experimenter could see each other (visible), and in the other half they could not see each other (non-visible) because a cardboard wall was placed between the child and experimenter. Since we found that the children gestured in both visibility conditions (see Zvaigzne, Oshima-Takane, Groleau, Nakamura, & Genesee 2008), we collapsed our data across both visibility conditions for the purposes of this paper.

The children's expressive vocabulary level was assessed using the Expressive One-Word Picture Vocabulary Test (EOWPVT, Academic Therapy Publications Inc., 2000). The children were shown pictures of objects or activities, and they had to name the objects or actions. This test was created for and normed with English-speaking children in the United States; thus, we modified the administration and scoring for our participants. First, the test began at the 3-year-old level for everyone in case the bilinguals had less vocabulary than the same-age monolinguals. Second, we omitted 18 items during scoring because they were perceived to be culturally specific (e.g. windmill). Third, raw scores were calculated by summing the number of correct items from Item 10 onward until the child failed five consecutive items. There are no norms available for French- or Japanese-speaking children; thus, our analyses are based on raw scores. The EOWPVT was administered according to test guidelines except for the changes described.

A Language Environment Questionnaire was completed by the children's parents. This questionnaire asked for demographic information and language experience (e.g. exposure to French, Japanese, and other languages in various settings).

2.3 Procedure

All participants were tested individually. The French monolinguals and bilinguals were tested in a large playroom at a university laboratory. The Japanese monolinguals were tested in a small room at their daycare. Monolinguals had one session; bilinguals had

Table 1. Scene Characteristic differences of the cartoon pairs. Characteristic differences listed first were those of the target cartoons

Scene characteristic	Characteristic difference	Animal for French	Animal for Japanese
Motion characteristic	Flapping wings, still wings	Bird	Butterfly
	Swing, jump	Monkey	Squirrel
	Rolling, sliding	Dog	Pig
	Jumping, running	Frog	Rabbit
	Spiky, smooth	Fish	Lizard
Object characteristic	Square, round	Bug	Turtle
	Fluffy, smooth	Cat	Dog
	Fat, thin	Bird	Mouse

one French and one Japanese session, scheduled one to three weeks apart. The order of language was counterbalanced across participants. French monolinguals and bilinguals completed the RCT, followed by the EOWPVT. The task order was reversed for Japanese monolinguals. All experimental sessions were video-recorded.

The experimenter described the RCT as a guessing game. Using the practice trials, the experimenter explained that they would see two cartoons side by side which were exactly the same except for one difference (scene characteristic). The child had to find the difference and give the experimenter clues so she could guess which cartoon had the star. Children who had difficulty were encouraged with questions unrelated to the scene characteristic (e.g. *are they the same color?*). To keep the children motivated, they received stickers throughout the task. After the practice trials, eight test trials were presented in total with four trials in each visibility condition. The order of the visibility conditions was counterbalanced across participants. In addition, the order of the first and second sets of four test trials was counterbalanced across participants.

2.4 Coding

Native or near native speakers of French and Japanese transcribed the children's and experimenter's speech verbatim in CHAT format for French (MacWhinney 2000) and JCHAT format for Japanese (Oshima-Takane, MacWhinney, Sirai, Miyata, & Naka 1998). The CHAT and JCHAT formats are used in the CHILDES system for producing computerized transcripts of speech that can be analyzed by various CHILDES programs. Children's mean length of utterance (MLU) in words and morphemes was calculated using the CHILDES MLU program (MacWhinney 2000). One-word answers to experimenter questions (e.g. *yes, no, okay*), utterances containing unintelligible speech, and speech that was erroneously or unintentionally repeated within utterances (e.g. *he he he looks square*) were excluded from the MLU analyses.

The children's speech and gestures were coded together by native or near native speakers of French and Japanese, and then a second native or near native speaker verified the original coding. Each clause of a response where the child described (or attempted to describe) the scene characteristics was coded. In the transcription and coding, we did not mark where pauses occurred within an utterance; therefore, the gestures produced with utterances may have been produced with speech or during pauses. There were a few instances where gestures were not produced during an utterance, and these were excluded from the analyses.

The key words in each response were coded as *precise*, *imprecise*, or *other*. A *precise* response included clear, descriptive, and appropriate words to specify the scene characteristics (e.g. *has spikes; jumping*). Responses were coded as *imprecise* if they lacked clear descriptive words. Most often, these were responses such as *it looks like this, it goes like this*. Essentially, *imprecise* descriptions were not understood by the experimenter. A description was coded as *other* if (1) no clear descriptive words were used (e.g. *like a real bug*), (2) a negative descriptor was used (e.g. *not jumping*), (3) it

was not easily classifiable, or (4) the child described something other than the target characteristic. The key words were also coded for word type (e.g. verb, adjective) to determine the frequency of word and mimetic use. Mimetics were only used in Japanese. For example, *pyonpyon* was used to describe jumping and *gizagiza* was used to describe spiky.

All gestures produced by the children were coded (e.g. iconic, pointing), but only iconics were analyzed because they convey information about scene characteristics. Children's responses were coded as produced *with* or *without* gesture.

The verbal description and gesture codes were combined to produce four dependent variables: precise description without iconic gesture, precise description with iconic gesture, imprecise description without iconic gesture, and imprecise description with iconic gesture. The frequency of responses in each category was calculated separately for motion and object characteristics, and language for the bilinguals (French, Japanese). To control for variability in children's talkativeness, proportions were calculated by dividing response frequencies by the total number of responses the child gave for a particular scene characteristic and language.

3. Results

The means and standard deviations for the children's raw scores on the EOWPVT and their MLU in words and morphemes are shown in Table 2. The bilinguals had significantly lower vocabulary scores in French than the French monolinguals ($t(21) = -2.71$, $p < .05$) and significantly lower vocabulary scores in Japanese than the Japanese monolinguals ($t(21) = -3.88$, $p < .05$). Figures 2 and 3 summarize the mean proportions of precise and imprecise descriptions of the motion and object characteristics, with and without gestures, for each group.

The French and Japanese monolinguals did not differ in how often they produced precise descriptions without gesture. For precise descriptions with gesture, a marginally significant interaction was found between language and scene characteristic, $F(1, 22) = 3.94$, $p = .06$. French monolinguals described motions precisely with gesture

Table 2. Expressive language measures

		Vocabulary score (raw)		MLU in words		MLU in morphemes	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Monolingual	French	37.92	10.80	5.92	1.23	6.23	1.35
	Japanese	39.17	11.04	5.12	1.22	7.04	1.66
Bilingual	French	24.91	12.21	7.14	1.66	7.46	1.74
	Japanese	20.00	12.63	4.47	1.65	5.92	2.10

slightly more often than objects, whereas the Japanese monolinguals used these responses significantly more often for motions than objects, $t(11) = 2.96, p < .05$. This finding is likely related to mimetic use, as the Japanese monolinguals produced significantly more mimetics for motion descriptions ($M = .71$) than for object descriptions ($M = .28, t(11) = 3.91, p < .05$). The Japanese monolinguals provided significantly more imprecise descriptions without gesture than the French monolinguals, $F(1, 22) = 4.79, p < .05$. The monolinguals did not differ, however, in their use of imprecise descriptions with gesture.

For the French-Japanese bilingual children, the language used influenced their use of precise descriptions without gesture, and this interacted moderately with the scene characteristic being described, $F(1, 10) = 3.76, p = .08$. When the bilinguals spoke French, object characteristics were described precisely without gesture significantly more often than motion characteristics, $t(10) = -3.77, p < .05$. The same was found when the bilinguals used Japanese, though the difference was not significant, $p > .05$. With respect to mimetic and gesture use by the bilinguals when using Japanese, this was higher for motion descriptions ($M = .32$) than for object descriptions ($M = .09$), though this difference did not reach statistical significance, $t(10) = 1.83, p > .05$.

When the French-Japanese bilinguals spoke French, they were similar to the French monolinguals in how frequently they used each type of description. When the bilinguals spoke Japanese, they produced precise descriptions with and without gesture to a similar degree as Japanese monolinguals. However, this was not the case for

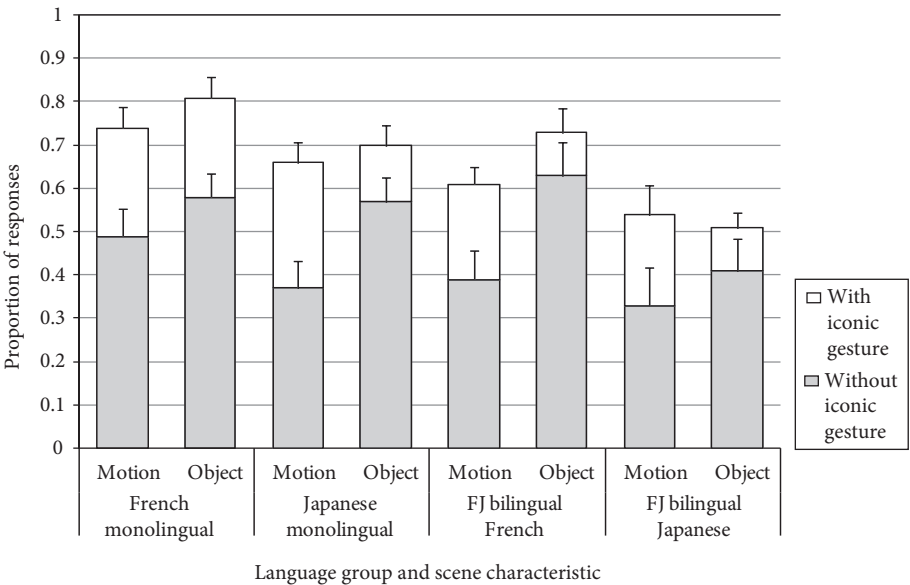


Figure 2. Mean proportions and standard errors of precise responses, with or without iconic gestures, for motion and object characteristics by language group.

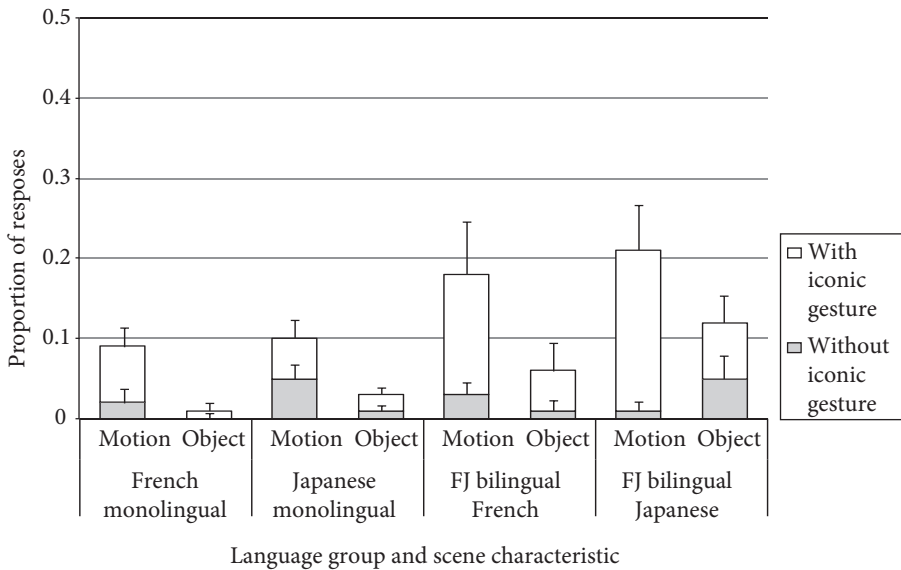


Figure 3. Mean proportions and standard errors of imprecise responses, with or without iconic gestures, for motion and object characteristics by language group.

their use of imprecise descriptions. Language group interacted with scene characteristic for imprecise descriptions without gestures, $F(1, 21) = 6.12, p < .05$. The Japanese monolinguals used these types of descriptions slightly more for motions than objects, while the bilinguals used them more for objects than motions, $t(10) = -1.85, p = .09$. The bilinguals also provided significantly more imprecise descriptions with gestures than the Japanese monolinguals ($F(1, 21) = 6.11, p < .05$), and the bilinguals actually used these types of descriptions more often when describing motions than objects, $t(10) = 3.35, p < .05$. When mimetic use was examined, the Japanese monolinguals and bilinguals speaking Japanese produced similar amounts of precise mimetic descriptions without gesture, but precise mimetic descriptions with gesture were used significantly more often by the monolinguals than the bilinguals, $F(1, 21) = 6.38, p < .05$.

Overall, the monolingual and bilingual children described object characteristics with precise responses and no gestures significantly more often than motion characteristics, $p's < .05$. In contrast, motion characteristics were described with precise responses with gestures and imprecise responses with or without gestures more often than object characteristics were, $p's < .05$.

4. Discussion

In the present study, we investigated the effects of language, language group, and scene characteristic on children's verbal descriptions with and without iconic gestures. We

expected greater use of iconic gestures in Japanese than French because of the frequent use of mimetics in Japanese. Both mimetics and iconic gestures can be used to vividly and effectively convey the imagistic and affective nature of objects and events (Kita 2001). There was some evidence for this, but it depended on the scene characteristic being described. That is, both Japanese monolinguals and French-Japanese bilinguals using Japanese produced more gestures with motion than object descriptions when providing precise responses. Furthermore, a moderate to large proportion of the motion descriptions were mimetic in nature (monolinguals 71%; bilinguals 32%).

Our French-Japanese bilinguals had significantly lower vocabulary scores than both monolingual groups, and consequently may have had some difficulty describing the scene characteristics verbally. Despite this, the bilinguals' response patterns were similar to those of the French monolinguals for all response categories and to those of the Japanese monolinguals' for precise responses. Differences were only found for imprecise responses in Japanese. More specifically, the bilinguals produced significantly more imprecise descriptions with iconic gestures for motion characteristics. This might be due to decreased mimetic use by bilinguals when speaking Japanese compared to the Japanese monolinguals. Indeed, when producing precise responses with gesture, the bilinguals used mimetics significantly less often than the Japanese monolinguals. The similarities and differences between the bilinguals and monolinguals could be a result of living in Montréal, a French environment. Exposure to Japanese, including the use of mimetics, is limited for these bilingual children. Bilinguals living in Japan would probably be more similar to Japanese monolinguals in their mimetic use. We are currently conducting a similar study with Japanese-English bilingual children living in Japan to address this issue.

Consistent with our prediction, the scene characteristic being described influenced gesture use such that motion characteristics were accompanied by gestures more than object characteristics. Scene characteristic unexpectedly influenced verbal descriptions without iconic gesture as well. Descriptions of objects tended to be precise while descriptions of motions were often imprecise. Perhaps objects can be described more easily, while the dynamic nature of motion events renders them more difficult to describe verbally. The object characteristics in our study were relatively simple, however, and this issue should be examined further in future research.

In conclusion, we found that the presence of mimetics in Japanese was associated with co-speech gesture use when describing motion events in particular. Moreover, mimetic and gesture use was seen more often in the Japanese monolinguals than the bilinguals, likely due to their limited exposure to and proficiency in Japanese. Future research should examine bilinguals with higher proficiency in Japanese, as well as other bilingual groups to fully understand how and why speakers use iconic gestures with mimetics.

References

- Academic Therapy Publications Inc. 2000. *Expressive One-Word Picture Vocabulary Test* (2nd ed.). Novato: Academic Therapy Publications.
- Allen, S., Özyürek, A., Kita, S., Brown, A., Furman, R., Ishizuka, T. and Fujii, M. 2007. "Language-specific and universal influences in children's syntactic packaging of manner and path: A comparison of English, Japanese, and Turkish." *Cognition* 102: 16–48.
- Church, R. B. and Goldin-Meadow, S. 1986. "The mismatch between gesture and speech as an index of transitional knowledge." *Cognition* 23: 43–71.
- Gullberg, M. 1998. *Gesture as a Communication Strategy in Second Language Discourse. A Study of Learners of French and Swedish*. Lund: Lund University Press.
- Holler, J. and Beattie, G. 2003. "How iconic gestures and speech interact in the representation of meaning: Are both aspects really integral to the process?" *Semiotica* 146: 81–116.
- Kita, S. 2001. "Semantic schism and interpretive integration in Japanese sentences with a mimetic: a reply to Tsujimura." *Linguistics* 39: 419–436.
- Kita, S. 2008. "World-view of protolanguage speakers as inferred from semantics of sound symbolic words: A case of Japanese mimetics." In *The Origins of Language: Unraveling Evolutionary Forces*, N. Masataka (ed), 25–38. Tokyo: Springer.
- Kita, S. and Özyürek, A. 2003. "What does cross-linguistic variation in semantic coordination of speech and gesture reveal? Evidence for an interface representation of spatial thinking and speaking." *Journal of Memory and Language* 48: 16–32.
- MacWhinney, B. 2000. *The CHILDES Project: Tools for Analyzing Talk*. Mahwah: Lawrence Erlbaum Associates.
- Mayberry, R. and Nicoladis, E. 2000. "Gesture reflects language development: Evidence from bilingual children." *Current Directions in Psychological Science* 9: 192–196.
- McNeill, D. 1992. *Hand and Mind: What Gestures Reveal about Thought*. Chicago: University of Chicago Press.
- McNeill, D. and Duncan, S. D. 2000. "Growthpoints in thinking-for-speaking." In *Language and Gesture*, D. McNeill (ed), 141–161. Cambridge: Cambridge University Press.
- Nicoladis, E. 2002. "Some gestures develop in conjunction with spoken language development and others don't: Evidence from bilingual preschoolers." *Journal of Nonverbal Behavior* 26: 241–266.
- Nicoladis, E. 2007. "The effect of bilingualism on the use of manual gestures." *Applied Psycholinguistics* 28: 441–454.
- Oshima-Takane, Y., MacWhinney, B., Sirai, H., Miyata, S. and Naka, N. (eds). 1998. *CHILDES Manual for Japanese* (2nd ed.). Nagoya: JCHAT Project.
- Özyürek, A., Kita, S., Allen, S., Furman, R. and Brown, A. 2005. "How does linguistic framing of events influence co-speech gestures? Insights from crosslinguistic variations and similarities." *Gesture* 5: 219–240.
- Riseborough, M. G. 1982. "Meaning in movement: An investigation into the interrelationship of physiographic gestures and speech in seven-year-olds." *British Journal of Psychology*, 73: 497–503.
- Stam, G. 2006. "Thinking for speaking about motion: L1 and L2 speech and gesture." *International Review of Applied Linguistics* 44: 145–171.

- Stam, G. 2008. "What gestures reveal about second language acquisition." In *Gesture: Second Language Acquisition and Classroom Research*, S. G. McCafferty and G. Stam (eds), 231–255. New York: Routledge.
- Zvaigzne, M., Oshima-Takane, Y., Groleau, P., Nakamura, K. and Genesee, F. 2008. "The function of children's iconic co-speech gestures: A study with French-Japanese bilinguals and French monolinguals." In *BUCLD 32: Proceedings of the 32nd Annual Boston University Conference on Language Development*, H. Chan, H. Jacob and E. Kiparsky (eds), 598–609. Boston: Cascadia Press.

Acknowledgments

This research was supported by a Social Sciences and Humanities Research Council grant to the second and third authors, and a Ministry of Education, Culture, Sports, Science and Technology grant (No. 18520448) to the fourth author. We thank the Montréal Japanese Language Centre, Japanese Canadian Cultural Center of Montréal, Mominoki daycare, and the children and parents who participated. We also thank Alisa Koyama, Andrew Pinchefskey, Azusa Yamaguchi, Carrie Cheung, Chigusa Kurumada, Kayo Nakamura, Kyoko Sato, Galia Pogossova, Hisako Noguchi, Hitomi Mitsuo, Leila Salem, Mari Umeda, Michi Tomoda, Patricia Groleau, Serina Nishioka, Yasuko Senoo, and Yuri Fujisaki who helped with data collection, transcription, and coding, and Marie Lippeveld for helpful comments.