



## Examining EFL Teachers' Non-verbal Behaviors in English-medium Lessons

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This paper describes an observational study with three Japanese EFL teachers that examined: (1) the difference in the frequencies of non-verbal behaviors (NVBs) depending on the amount of the second language (L2) used by the teacher; (2) the kinds of NVBs the Japanese EFL teachers used in the classes, and (3) the difference in frequency of NVB use depending on whether the same teacher used their first language (L1) or L2. An analysis of the findings indicated the following: (1) the greater the amount of teacher output of L2, the more frequently NVBs were used; (2) the teachers used different types of NVBs depending on the situation; and (3) NVBs were more frequently used when the teacher spoke L2. These findings suggest that NVBs play a crucial role in providing comprehensible input in EFL classrooms. The pedagogical implications for EFL teachers and teacher educators are also suggested in the conclusion.

**Keywords:** EFL teachers, EFL learners, non-verbal behaviors, comprehensible input, English-medium lessons

### Introduction

In English as a foreign language (EFL) and second language (L2) classrooms, it is commonly believed that comprehensible input is essential for learning (e.g., Krashen, 1981, 1985, Robinson, 1995; Schmidt, 1990; VanPatten, 1996, 2004). In providing comprehensible input to students verbally, EFL teachers may try to vary the degree of difficulty of the English they use, simplifying or elaborating on it depending on student needs (e.g., Ellis, 1994; Larsen-Freeman & Long, 1991; Prabhu, 1987). In addition, in EFL and L2 classrooms, nonverbal behaviors (NVBs), such as gestures, are frequently used by teachers to make verbal input more comprehensible (e.g., Allen, 2000; Lazaraton, 2004; Kamiya, 2012; Sueyoshi & Hardison, 2005). However, as Allen (2000) has suggested, previous second language acquisition (SLA) research has exclusively focused on verbal input, especially with regard to EFL classrooms, such as in Japan. Given the lack of previous research on the subject, this observational study explored the use of NVBs by three Japanese EFL teachers, including hand gestures, head movements, emblems, and affect displays, in order to assess the implications of NVBs for EFL teaching and to provide suggestions for creating English-medium lessons with rich, comprehensible input.

## Background

### The Importance of Comprehensible Input

In language learning, the provision of a great amount of input is largely viewed as a precondition for learning (e.g., Krashen, 1981, 1985; Robinson, 1995; Schmidt, 1990; VanPatten, 1996, 2004). In his influential Input Hypothesis, Krashen (1981, 1985) claimed that language acquisition is input-driven, meaning that languages are acquired through receiving comprehensible input, which is defined as input that is heard or read and that is slightly above a learner's current state of grammatical knowledge. This  $i+1$  input is crucial for language acquisition. He also added that input need not be restricted to  $i+1$ , and that if the learner understands the input and there is enough of it,  $i+1$  will automatically be provided. Although some researchers have criticized the Input Hypothesis, as it lacks clear and specific measurements of knowledge (Gass & Selinker, 1994) and a sufficiently detailed psycholinguistic account of the perceptual mechanism of what constitutes  $i+1$  (Chaudron, 1985), there is a wealth of studies in the field of SLA which regard input as crucial for learning (e.g., Chaudron, 1985; Gass, 1997; Robinson, 1995; Schmidt, 1990; Tomlin & Villa, 1994; VanPatten, 1996, 2004). We can therefore safely conclude from prior research that comprehensible input is a necessary component for foreign language learning. To create input that is just in advance of current learner proficiency levels, comprehensible, extra-linguistic information, such as teacher use of NVBs, can be effectively employed (e.g., Krashen & Terrell, 1983). This will be examined in greater detail in the following section.

### The Roles and Effects of Gestures and Nonverbal Behaviors in Language Learning

Nonverbal behaviors, such as gestures and facial cues, are crucial parts of the language teacher's pedagogical repertoire (e.g., Allen, 2000; Lazaraton, 2004; Smotrova & Lantolf, 2013). NVBs have both speaker-internal and speaker-external communicative purposes (e.g., Lozano, & Tversky, 2006; McCafferty, 2004). The former facilitates production by helping teachers organize their thinking, and the latter helps L2 learner comprehension (e.g., Lozano & Tversky, 2006; McCafferty, 2004). However, it is the external, communicative function that can create comprehensible input for students. In fact, according to Kellogg and Lawson (1993, as cited in Allen, 2000), a surprisingly high proportion of teacher communication is nonverbal, and it has been claimed that L2 teachers provide a considerable amount of input to students in the form of NVBs, which can modify verbal input to make it more comprehensible (Lazaraton, 2004). Therefore, gestures seem to play an important role as input to learners for comprehension. A number of prior studies have examined the effects of gestures and on learner comprehension of input. Allen (1995) examined the effects of gestures given during French vocabulary explanations in recalling lexical items in a pre-post design study, and revealed that in the posttest, the treatment group performed significantly better than the control groups in retaining more expressions. Lazaraton (2004) investigated the enhancing effect of NVBs as input in a teacher's unplanned explanation of vocabulary. This analysis suggested that the effect of gestures on input to L2 learners is significant, as gestures modify verbal input and make it more comprehensible for students. Sueyoshi and Hardison (2005) confirmed in their study that their participants, who were not allowed to take notes, showed better comprehension when more visual information was available to them. They concluded that when these participants were required to answer comprehension questions, the use of gestures as visual cues facilitated memory encoding and information recall.

A further question regards student perceptions of the use of gestures by teachers. In a qualitative, descriptive study that collected data through interviews with twenty-two adult learners (Sime, 2006), it was found that learners identified three functions of teacher gestures, namely, cognitive, emotional, and organizational. Among them, the cognitive function of gestures is relevant as it enhances their effect on learning. Learners in the study reported that gestures facilitated their attention to, and retention of, linguistic information provided by the teacher. Sime therefore suggested that students supplement their

learning with teacher gestures and other nonverbal messages and cues.

To assess student perceptions of teacher nonverbal behavior as a comprehension aid, Allen (2000) conducted a study with students who were learning Spanish as a foreign language. In written responses from students in six classes, they overwhelmingly reported that teacher use of NVBs helped them to comprehend foreign language input. For example: "...the motions help me to visually comprehend what I may not understand at all if she was just standing there talking" (Allen, 2000, p. 169). Allen's observational study thus suggested the crucial role of teachers' NVBs in providing foreign language learners with comprehensible input.

In EFL classrooms, such as in Japan, student L2 knowledge and skills are often limited, making it difficult for them to understand L2 input from teachers. In the Japanese EFL context, Pribyl, Sakamoto, and Kesten (2004) examined Japanese university students' perceptions of the use of NVBs by teachers. The results indicated that student perceptions of the use of NVBs by teachers were positively related to student motivation and perceived learning. However, the use of gestures in Japanese EFL classrooms is still under-researched. Thus it is crucial to examine the use of NVBs by teachers to help student comprehension. This study therefore attempts to answer the following research questions:

Does the frequency of NVBs differ according to the ratio of L2 use in lessons between different teachers who are considered to possess approximately the same English proficiency level?

1. What kinds of NVBs do Japanese EFL teachers use in their classes?
2. Does the frequency of NVBs differ during L1 and L2 use by the same teacher?

This observational study also aimed to detect and analyze the various, distinctive features of gestures and NVBs used by Japanese EFL teachers. In addition, it should be noted that this observational case study was designed as a pilot study to extract basic data that will help to generate hypotheses for full-fledged further studies that can generalize teachers' NVBs.

## Method

### Research Context

In April 2011, foreign language communication activities became compulsory for fifth and sixth grade students. However, the course is aimed at "fostering a positive attitude toward communication" (the Ministry of Education, Culture, Sports, Science, and Technology of Japan [MEXT], 2008a, p. 1) instead of teaching a foreign language as a school subject. According to MEXT, the overall objective of English education in junior high school is "to develop students' basic communication abilities such as listening, speaking, reading, and writing" (MEXT, 2008b, p. 1). In senior high school, as is the case for junior high school, all four skills should be interlinked for comprehensive learning through language activities (MEXT, 2009). Although fostering communication abilities is emphasized both in junior and senior high school, in the Japanese EFL context, in which there is little natural exposure to English or the need for actual communication in English, students generally study English as one of the required subjects of their examinations (e.g. Butler & Iino, 2005; Sato, 2009, 2010; Stewart, 2009). Traditionally Japanese EFL learners have been learning English through the traditional Grammar-Translation method due to its perceived value as a means of study for high-stakes upper secondary school and tertiary school entrance examinations (Ike, 1995). Now, as is required by MEXT, English education in Japan is a transitory period; students are required to improve communication abilities in English.

## Participants

Three Japanese EFL teachers participated in the study (Table 1). Kouki (male) teaches SHS, and Yuki (female) and Miki (female) both teach JHS (The names appearing in this study are pseudonyms to protect the privacy of the participants.). They were all newly appointed teachers at the time of the study (February, 2015). None had participated previously in a study abroad program in an English-speaking country. However, the researcher, an experienced Japanese teacher of English and SLA researcher, judged through careful observation of their lessons, that the teachers' English was fluent and devoid of any communication problems. Kouki and Miki had already passed the pre-first grade of the Society for Testing English Proficiency (STEP) Test<sup>1</sup>, and all were preparing to take the first grade of the STEP Test at the time of the study. Thus, for this study, the three teachers were considered to possess approximately the same English proficiency level. To conduct this study, it was necessary to find teachers who 1) would use English as a medium of instruction, 2) would use nonverbal behaviors such as gestures in their lessons, 3) would not feel uncomfortable being videotaped, and 4) would willingly participate in this study (Allen, 2000). The three teachers who participated in this study were graduates of the same class of the National University of Education in Japan where the author teaches; this factor enabled the conclusion that all three participants met the above requirements of the study. Kouki's class consisted of 39 second-year SHS students who were either 16 or 17 years old and had studied English as a subject for 4 years and 10 months. Yuki's class consisted of 19 first-year JHS students who were 12 or 13 years old and had studied English for 10 months. Finally, Miki's class consisted of 37 second-year JHS students who were 13 or 14 years old, and had studied English for 1 year and 10 months.

TABLE 1  
*Demographic information of the participating teachers and students*

Teacher	Age	Degree	English Proficiency Level (STEP test)	School (Date of the Lesson)	Teaching Experience (In Months)	Number of Students	Students' Age
Kouki	23	BA	Pre-First Grade	SHS (February 2, 2015)	10	39	16-17
Yuki	23	BA	Not Taken	JHS (February 16, 2015)	10	19	12-13
Miki	23	BA	Pre-First Grade	JHS (February 17, 2015)	10	37	13-14

## Procedures

First, emails were exchanged with the participating teachers, providing them with a broad explanation of this study and determining the observation dates. The teachers were not informed about the specific purposes of this study beforehand. To clearly capture teachers' utterances, behaviors, and interactions with their students, the lessons were both video and audio recorded. For the video recording, a video camera was placed in the back of the classroom, and for audio recording, the participant teachers put a microphone in their jacket pocket. The data for the recorded lessons was transcribed after each observation.

## Analysis

### Comparison of L2 use among the three teachers.

Following the research of Nakatsukasa and Loewen (2014), teacher talk was first divided into individual utterances, and then categorized into L1 or L2. In this study, the standard of "utterance" from Nakatsukasa and Loewen (2014), based on the completion of individual sentences, was adopted to calculate the ratio of English and Japanese used. In segmentation, there were some utterances that consisted of one word, and they were regarded as utterances as well. Following segmentation, each

utterance was classified into primarily L1, primarily L2, or equally L1 and L2. Table 2 displays explanations and examples of each category. In this table, some Japanese sentences or words are immediately followed by translations in English. All the examples come from the present study's data.

TABLE 2  
*Explanations and examples of L1 and L2 utterances by category*

Category	Example
Primarily L1 (Completely or mostly in Japanese)	T: <i>Ansho nai desu, kyo wa</i> (You do not have a recitation test today). <i>Ansho tesuto atta kana te omou gurai, anmari itte nakatta to omou</i> (You are wondering whether you have a recitation test, because I did not say so much).
Primarily L2 (Completely or mostly in English)	T: So, last Friday, we practiced new words once. So, today, let's review. Let's repeat. Repeat after me the new words again. Are you ready? So, please repeat. Let's go.
Equally L1 and L2 (Almost the same amount of Japanese and English)	T: <i>Hai, tsugi</i> (OK, next), look at the board. T: <i>Hai, dewa, hoka</i> (OK, then, others), any volunteers? T: Today is February... <i>Kyo, jugo nichi ka</i> (Today, it is the fifteenth).

To ensure reliability while classifying the participating teachers' utterances into the three categories, a graduate student whose major was English education and SLA was asked to participate in the process. When differences in classification occurred between the author and graduate student, a final decision was made through discussion; this successfully resolved six cases of discrepancies in classification. Table 3 displays the frequency of the participants' L1 and L2 use. Of total utterances made by each participating teacher, 98.8% of Kouki's, 73.0% of Yuki's, and 35.5% of Miki's were primarily in English.

TABLE 3  
*Frequency of participants' L1 and L2 use in the classroom*

	Kouki		Yuki		Miki	
Primarily L1	7	1.2	193	26.3%	347	62.9%
Primarily L2	559	98.8%	535	73.0%	196	35.5%
Equally L1 and L2	0	0%	5	0.7%	9	1.6%
Total	566	100.0%	733	100.0%	552	100.0%

A chi-square analysis was conducted to determine whether there were significant differences in the ratios of L2 use among the three teachers. In chi-square analysis, the standardized residual of  $\pm 1.96$  is selected as the significant difference level ( $p < .05$ ). However, in the current study, as the analysis was conducted three times repeatedly, the Bonferroni-adjusted alpha level was set at .017 to avoid a Type I error (e.g., Field, 2009) by dividing .05 by three (repetitions). It was found that there were significant differences between Kouki and Yuki:  $\chi^2(1) = 159.65, p < .001$ ; Kouki and Miki:  $\chi^2(1) = 509.97, p < .001$ ; and Yuki and Miki:  $\chi^2(1) = 180.35, p < .001$ .

### Categorization of NVBs and gestures

McNeill (1992, 2005) categorized gestures into iconic, metaphoric, beat, and deictic. Based on the categorization of McNeill (1992, 2005), Wang and Loewen (2015) categorized NVBs as: hand gestures, head movements, affect displays, kinetographs, and emblems. In the current study, this categorization of NVBs was adopted, except in the case of kinetographs, which Wang and Loewen (2015) defined as "...teachers' bodily actions which involved multiple body parts..." (p 9) This was due to the difficulty of identifying clear instances of kinetographs in the data observed. In displaying NVBs, the three teachers in the current study often seemed to move multiple body parts just slightly. For example, Yuki demonstrated the movement of swinging a bat to mean playing baseball. In this case, she moved her hands, and at the same time, her head seemed to tilt slightly. However, it was the gesture of swinging a bat that had a message to convey, not the tilting of the head. In addition, previous studies (e.g., Lazaraton, 2004; McCafferty, 2004) also claimed that there was no clear distinction between kinetographs and others, such

as iconic gestures. For the current study, four general NVBs were categorized: hand gestures, head movements, affect displays, and emblems. In addition, hand gestures were further coded into iconic, metaphoric, deictic, and beat gestures, following McNeill (1992, 2005) and Wang and Loewen (2015). The categories are defined and exemplified as the following:

1. Hand gestures:

a. **Iconic Gestures:** Speakers use the hands and/or arms to represent the actual forms of objects and/or actions that are closely related to the semantic contents of the utterance (e.g., Lazaraton, 2004; McNeill, 1992; 2005, Wang & Loewen, 2015). In the following example taken from the current study, Yuki gave a direction to students by demonstrating the desired action by moving both of her hands.

Example 1 (for the verbal and nonverbal transcription symbols, see Appendix).

Y: After you put it in your file, please open the textbook.

((Yuki moves both hands as if she were opening the textbook during the utterance.))

b. **Metaphoric Gestures:** Speakers use the hand and/or arms to show the images of abstract concepts and/or ideas rather than the actual form of objects and/or actions shown by iconic gestures. In Example 2, Kouki used a metaphoric gesture while saying, “help each other.”

Example 2

K: People **help each other**, when in trouble.

((Kouki stretches out his right hand towards one student and moves it towards another student.))

c. **Deictic Gestures:** Speakers point to something or someone with the finger or the palm of the hand, representing both concrete and abstract entities. In Example 3, Miki pointed to the handout they were going to read in conjunction with the utterance.

Example 3

M: Let's begin, so **volume 3**.

((Miki holds up a piece of paper with the left hand, pointing to it with the index finger of the right hand.))

Deictic Gestures indicate abstract concepts as well. In the following example, Yuki pointed behind her with the thumb of her right hand to mean the past.

Example 4

Y: I went to Shiga Prefecture **the day before yesterday**, so... Sunday.

((Yuki points behind her with the thumb of her right hand while saying “the day before yesterday.”))

d. **Beat Gestures:** Speakers move the hand with a rhythmical pulse. Typically, a beat gesture is a simple flick of the hand or movement of fingers up and down or back and forth, following the stress peaks of speech (McNeill, 1992). In the following example, Yuki moved her right palm up and down to regulate the flow of speech.

Example 5

Y: I **didn't** play volleyball.

((Yuki quickly moves her right palm up and down while saying “didn't play volleyball.”))

2. **Head movements:** Speakers display head movements such as nodding, head shaking, or tilting the head to one side; these movements can be regarded as extensions of hand gestures (e.g.,

Kendon, 2004; McNeill, 2005; Wang & Loewen, 2015). In the current study, head movements were observed just five times, all performed by Kouki. In the following example, Kouki's head movement served as a prompt for the student to correct an error.

Example 6

S: eat food.

K A: **eats?**

((Kouki tilts his head with rising intonation on the end of "eats."))

3. Affect displays: Speakers reveal emotions such as happiness, fear, sadness, anger, distraction, and interest, especially through facial expressions (Allen, 2000). In the current study, most of the affect displays were performed by Kouki. In Example 7, Kouki showed his admiration for a sentence the student made.

Example 7

S: Brothers' tie is strong.

K: Wow, good sentence.

((Kouki gives a big smile to the student in conjunction with the utterance.))

4. Emblems: Speakers display nonverbal acts that are understood by all members of the same cultural group (e.g., McNeill, 1992, 2005). For example, putting the palm next to the ear means, "I cannot hear you" in Japan, and forming a circle with the thumb and index finger means "OK" in Western cultures. However, a lot of emblems, especially Western ones, are intercultural, and Japanese people often use the OK emblem as well. In the following example, Yuki's act of waving her hand horizontally with her finger extended can be understood by people from different cultures as signifying negation.

Example 8

Y: **Not** blank here.

((Yuki moves her hand quickly and repeatedly, pointing her index finger while saying "not" slowly.))

The categorization of NVBs was carefully conducted by the author with the video-recorded data and the transcriptions, and redone a week after the first classification. This method of classification follows Alderson, Clapham, and Wall (1995), who asserted that multiple rating sessions increase the reliability of the rating. In the four cases of discrepancies between the two ratings, a second rater, a male graduate student majoring in English education, was invited to provide his own independent rating. After discussion between the author and the second rater, the disagreement was resolved.

## Results and Discussion

Research question 1 asked whether the frequencies of NVBs differ according to the difference in the ratio of L2 use in lessons by the different teachers. As shown in Tables 4, 5, and 6, Kouki, who conducted his lesson almost entirely in English, and Yuki, who also taught primarily in English, used nonverbal behaviors more frequently than Miki, who taught her lesson mainly in Japanese. In Kouki's lesson, 29% of utterances were accompanied by NVBs. In Yuki's lesson, 34% of utterances were accompanied by NVBs, while only 8% of utterances were accompanied by NVBs in Miki's lesson.

TABLE 4  
*Frequency and types of nonverbal behaviors by Kouki*

Kouki	Total Number of Utterances	Number of Nonverbal Behaviors	Iconic Gestures	Metaphoric Gestures	Deictic Gestures	Beat Gestures	Head Movements	Emblems	Affect Displays
Primarily L1	7	3(43%)	0	0	0	0	0	0	3
Primarily L2	559	161 (29%)	37	17	73	1	5	3	25
Equal L1 & L2	0	0	0	0	0	0	0	0	0
Total	566	164(29%)	37	17	73	1	5	0	28

TABLE 5  
*Frequency and type of nonverbal behaviors by Yuki*

Yuki	Total Number of Utterances	Number of Nonverbal Behaviors	Iconic Gestures	Metaphoric Gestures	Deictic Gestures	Beat Gestures	Head Movements	Emblems	Affect Displays
Primarily L1	195	44(23%)	3	7	20	1	1	6	6
Primarily L2	533	203(38%)	42	11	78	40	0	25	7
Equal L1 & L2	5	2(40%)	0	0	1	1	0	0	0
Total	733	249(34%)	45	18	99	42	1	31	13

TABLE 6  
*Frequency and type of nonverbal behaviors by Miki*

Miki	Total Number of Utterances	Number of Nonverbal Behaviors	Iconic Gestures	Metaphoric Gestures	Deictic Gestures	Beat Gestures	Head Movements	Emblems	Affect Displays
Primarily L1	347	32(9%)	3	3	16	3	5	2	0
Primarily L2	191	13(7%)	3	0	10	0	0	0	0
Equal L1 & L2	9	1(11%)	1	0	0	0	0	0	0
Total	538	46(9%)	7	3	26	3	5	2	0

A chi-square analysis was conducted to see whether there was a significant difference in the frequency of gestures among the three teachers. The results revealed that there was not a significant difference between Kouki and Yuki,  $\chi^2(1)=3.67$ ,  $p=.05$ . However, the results revealed a significant difference between both Kouki and Miki,  $\chi^2(1)=70.64$ ,  $p<.001$ , and Yuki and Miki,  $\chi^2(1)=112.48$ ,  $p<.001$ . The results revealed that when the L2 ratio was high, gestures and nonverbal behaviors occurred frequently. One reason for this may be that to make verbal input more comprehensible for students, teachers Kouki and Yuki, whether intentionally or unintentionally, frequently used NVBs. In examples 9 and 10, gestures occurred while Kouki was speaking.

## Example 9

K: Do you remember writing original sentences about the things you value? For example, I put high value on ... **interaction** with K high school students.

((Kouki repeatedly moves his right hand from his chest towards the students while saying "interaction.")) [Metaphoric gesture]

Ss: ((Nod.))

## Example 10

K: So, maybe you underlined in your textbook last week ((Kouki makes a hand gesture as if he were underlining while saying, “underline.”)) [Iconic gesture]

Ss: ((Nod.))

These gestures provided additional input to the simultaneous verbal input, which prior research has indicated would likely have made it easier for students to comprehend.

In the following example, while asking which student would speak next, Yuki repeated her previous utterance with a deictic gesture. It can be assumed that she did so to clarify meaning with the help of the gesture, without which comprehension of the previous utterance may have been difficult for the students.

## Example 11

Y: This line, this line, or only you?

S: ...

Y: This line.

((Yuki points to the line of the seats when the student did not answer.)) [Deictic gesture]

S: This line.

It can be assumed that in Kouki’s and Yuki’s classes, which were conducted mainly in L2, NVBs increased the amount of comprehensible input. This considerable amount of nonverbal input modified and made the teachers’ verbal input more comprehensible (Lazaraton, 2004). We can safely say that the use of NVBs, whether planned and intentional or unplanned and unintentional, can have an impact on student comprehension.

As stated previously, gestures may be used for speaker internal purposes in addition to the external purpose of student comprehension. In the following example, while talking about his hobby, Kouki paused to search for the right expression (“get a good score”) by making a gesture, and was able to successfully express his intended meaning.

## Example 12

K: I feel happiest when I (pauses), when I play music games and when I get (pauses) a good score in such games, I feel happiest.

((He takes a short pause after “I get” and starts moving his right palm upward and continues the utterance.)) [Metaphoric gesture]

Ss: ((Smile.))

Previous research suggests that gestures can facilitate teachers’ speech in a way that allows them to organize their thoughts, while reducing the cognitive burden of recalling words or grammar so that they can continue speaking in L2 (e.g., Goldin-Meadow, 2003; Gullberg, 2006). In the current study, an interview was not conducted to confirm the interpretation of the reasons why NVBs were used. Thus, this can only be speculation, but Kouki and Yuki, in their English-medium classes, seemed to have utilized this effect of NVBs. Further study is needed to confirm this interpretation. However, as the English spoken by the teachers was not very complex, and that the short pause with gesture sequence was recorded just eight times, it can be interpreted that the main purpose of NVBs is to provide students with comprehensible input.

Research question 2 looked at the kinds of NVBs the three Japanese EFL teachers used in their classes. As shown in Table 7, which summarizes Tables 4, 5, and 6, all three teachers used deictic gestures most frequently, followed by iconic gestures.

TABLE 7  
*Usage frequency of different kinds of gestures by teachers*

Teacher	First	Second	Third	Fourth
Kouki	Deictic (77, 48%)	Iconic (37, 23%)	Affect displays (25, 16%)	Metaphoric (17, 11%)
Yuki	Deictic (78, 38%)	Iconic (42, 21%)	Beats (40, 20%)	Emblems (25, 12%)
Miki	Deictic (10, 77%)	Iconic (3, 23%)	-	-

As explained previously, deictic gestures are gestures indicating concrete objects such as people, handouts, or blackboards, or abstract concepts such as time. Three teachers frequently wrote sentences in English on the blackboard and pointed to them while explaining grammar and vocabulary. To clarify instructions, they often pointed at handouts, textbooks, and students, which contributed a number of deictic gestures, as exemplified below.

Example 13

M: Everyone, repeat after me, careful.

((Miki points to a sentence written on the blackboard with her index finger and then says “careful.”)) [Deictic gesture]

Ss: Careful.

Example 14

K: So, move on to the second paragraph. Please look at the right side here.

((Kouki shows a handout and points at a paragraph with his index finger.)) [Deictic gesture]

Ss: ((Look at the right side of the handout.))

In this study, Yuki consistently used deictic gestures to refer to the past, such as “yesterday” and “the day before yesterday” (Examples 15 and 16). Although some of the expressions were ones the students had not yet learned or that had not yet appeared in their textbook, it seemed that the students understood the meanings with the help of the gestures. As retrospective data on the reasons for the consistent use of deictic gestures was not obtained, it can be speculated that, whether consciously or unconsciously, Yuki used deictic gestures to help the students understand the input more clearly. It can thus be assumed that regular use of the movement of pointing behind her with the right thumb facilitated student comprehension of past tense expressions.

Example 15

Y: Last weekend, **Saturday or Sunday.**

((Yuki points behind her with her right thumb in conjunction with the utterance.)) [Deictic gesture]

Ss: ((Nod.))

Y: On Saturday...I forget what I did.

Ss: ((Smile.))

Example 16

Y: I went to Shiga Prefecture **the day before yesterday. So, Sunday.**

((Yuki points behind her with her right thumb while saying “the day before yesterday.”)) [Deictic gesture]

S: Ah~, Shiga.

Another frequently observed phenomenon was the continuous movement from deictic gesture to other types of gestures in the same utterance. In the following example, Kouki first pointed to a picture on the board [deictic gesture] and then made a gesture of writing something [metaphoric gesture].

## Example 17

K: Japanese sociologist, a professor who studies sociology.

((Kouki points to a picture of a woman on the board with his index finger [deictic gesture] and then makes a gesture of writing something while saying, “ who studies sociology.”))  
[Metaphoric gesture]

Ss: ((Nod.))

In Example 18, a deictic gesture was followed by an affect display.

## Example 18

K: Unfortunately, she died three... about three years ago.

((Kouki points to a picture of a woman on the board with his index finger [deictic gesture] and then showed a sad countenance.)) [Affect display]

Ss: ((Nod.))

With this type of movement, teachers can make the subject clear by using a deictic gesture first, and then clarify his/her action or statement with other types of gestures. In this study, continuous movement from one gesture to another was observed only in the case of deictic gestures at the initiation. In total, 14 cases were reported, five times by Kouki, seven times by Yuki, and twice by Miki. While deictic gestures indicate concrete objects or abstract concepts, iconic gestures represent actions and/or images of concrete entities that embody semantic content (e.g., Lazaraton, 2004; McNeill, 1992, 2005), as shown in the following examples.

## Example 19

K: You can **go around**.

((Kouki makes invisible circles by moving his right hand repeatedly.)) [Iconic gesture]

Ss: ((Stand up and start going around.))

## Example 20

Y: You played volleyball?

((Yuki displays an action to represent playing volleyball.)) [Iconic gesture]

S: Yes.

The prevalence of deictic and iconic gestures in the lessons observed can be explained by their quality of carrying semantic content (Lozano & Tversky, 2006). In giving directions and explanations, as shown in the examples above, it seems that these gestures served to provide additional information, and made the teachers' verbal input more comprehensible. Thanks to their semantic nature, deictic and iconic gestures can be seen as facilitating student understanding of input even when it is beyond their current level of English proficiency.

In addition, Yuki displayed beat gestures frequently, and it was observed that she kept the rhythm of her English speech by moving her hands or fingers repeatedly. This may be because beat gestures facilitated her English output, or mediated to externalize the linguistic structure of English (McCafferty, 1998, 2004). However, in this study, the rest of the five prevalent NVBs in Table 7, namely, deictic, iconic, and metaphoric gestures, affect displays, and emblems seemed to have served mainly external functions. This implies the significant role of NVBs in assisting student comprehension by providing and/or clarifying crucial information.

Kouki showed affect displays the third most frequently. Twenty out of twenty-five instances of affect displays were exaggerated smiles accompanied by speech. Previous studies have shown that when teachers react through nonverbal behaviors such as smiling, a supportive climate is established in the classroom (Burgoon, et al.1990; Frymier, 1994; Frymier & Weser, 2001). It seems that by smiling, Kouki created an encouraging, supportive atmosphere, as can be seen in the examples.

## Example 21

K: So, today, D (name of a student). Could you report?

((Kouki gives an exaggerated smile while speaking to student D.)) [Affect display]

S: Yes.

In this excerpt, by creating an encouraging atmosphere, Kouki seemed to have tried to elicit student D's utterance, which he/she did successfully. Kouki's smiling in Example 22 occurred when he found that no one could perform the task as well as they had been expected to, which seemed to have created an encouraging and supportive atmosphere.

## Example 22

K: You **couldn't**. **OK**

((While saying "OK" to the whole class, Kouki gives an exaggerated smile.)) [Affect display]

Ss: ((Nod or smile.))

Kouki also often used smiling when he talked about his private affairs (Example 23) and showed humor as well (Example 24), which also seemed to have contributed to an encouraging, supportive atmosphere.

## Example 23

K: I also like TV and the Internet.

((Kouki smiles happily to the whole class.)) [Affect display]

Ss: ((Nod or smile.))

## Example 24

K: Yeah, I don't know whether Bhutanese people like Lady Gaga or not.

((Kouki smiles widely to the whole class.)) [Affect display]

Ss: ((Nod or smile.))

It may be true that L2-based classes can create a psychological distance between teachers and students, and prevent the establishment of good relationships or rapport with every student. Moreover, L2 classes can make some students, especially those whose L2 comprehension is limited, feel anxious (Ferguson, 2003). To overcome this problem, affect displays such as smiling can be utilized to create an atmosphere in which students can feel encouraged, accepted, and motivated (e.g., Hsu, 2010), as Kouki demonstrated in the above examples. However, as the frequent occurrence of affect displays in the form of smiling was observed only in Kouki's class, further analysis with more data is needed to confirm its effects.

Metaphoric gestures, which display images of abstract concepts such as ideas, occurred more frequently in Kouki's class than in Yuki's class. This may be because of the difference in difficulty between Kouki's SHS textbook and Yuki's textbook for the first-year JHS students. As Kouki had to teach relatively abstract words and expressions, he used metaphoric gestures to facilitate student comprehension. We can argue that the types of gestures used are closely related to the content of the speech. Further study that focuses on this aspect is needed.

Research question 3 was concerned with whether there was a difference in the frequency of NVB use depending on whether the same teacher used the L1 or L2. In answering this research question, only Yuki's data was examined, because Kouki rarely used the L1, while Miki primarily used the L1. As Table 4 shows, 23% of Yuki's L1 utterances and 34% of her L2 utterances were accompanied by NVBs. A chi-square analysis was conducted to determine whether there was a significant difference in the frequency of gestures between when the L2 and L1 was used. This time the standardized residual of  $\pm 1.96$  was selected as the significant difference level ( $p < .05$ ). The result revealed that there was a significant difference of  $\chi^2(1) = 15.34, p < .001$ . It can be assumed that the high frequency of NVB use by Yuki with the L2 was related to her students' English proficiency levels. Students in her class were in the first-grade of JHS and

had only been studying English as a school subject for just 10 months at the time of the study. As their L2 knowledge and skills may not have been sufficient enough to understand verbal L2 input alone, there was a need for additional information in the form of NVBs to understand Yuki's L2-based instruction.

#### Example 25

Y: Put everything **in your desk**.

((Upon finishing the utterance, she moves her hands as if she is grabbing a textbook and putting it into a desk.)) [Iconic gesture]

Ss: ((Start putting their textbooks and notebooks into their desks.))

#### Example 26

Y: Please exchange with your friends.

((Yuki moves her hands as if she is giving a paper to somebody.)) [Metaphoric gesture]

Ss: ((Start to exchange papers with each other.))

In these situations, Yuki may have used words or expressions unknown to her students since the expressions "put into" and "exchange" had not yet appeared in their textbook. However, the author observed that most of the students started to follow her directions when they saw her gestures. We can safely assume that Yuki successfully made the input more comprehensible for the students with the help of the gestures. Her gestures played an important role as extra-linguistic cues to assist in student comprehension despite limited L2 knowledge. Therefore, by analyzing Yuki's data, we found that NVBs were more frequent when teaching in L2.

## Conclusion

The major findings of this observational study were that teacher NVBs are more likely to occur when the L2 ratio in the class is higher, that deictic and iconic gestures are the most frequently occurring types of gestures, with some variation due to the individual characteristics of teachers and classes, and that teachers are likely to use more NVBs when teaching in the L2 than in L1. These findings imply that NVBs play a crucial role in language learning, especially in providing comprehensible input to students. EFL learners, who often possess a limited knowledge of English, occasionally have difficulties comprehending verbal input and thus may depend on extra-linguistic knowledge (e.g., Allen, 2000). In conducting English lessons in English, therefore, teachers can utilize the facilitating effect of NVBs to improve student comprehension. Deictic and iconic gestures can be used to communicate semantic content; additionally, to demonstrate abstract concepts, metaphoric gestures can be employed effectively. To create a supportive atmosphere, in which student anxiety can be lowered and optimal conditions for language acquisition can be created (Krashen, 1982), affect displays, such as smiling, can be useful. For EFL teachers whose speaking proficiency is not yet fluent, beat gestures would also be helpful to maintain the rhythm of their English output.

In EFL classrooms, such as in Japan, it is crucial to conduct English lessons in English by providing comprehensible input to improve student communication skills. The findings of this study indicate that teacher education and training programs need to seriously consider the pedagogical roles that NVBs and gestures play in language acquisition. Although it is not clear whether teachers in the study displayed NVBs intentionally, we should take the effect of planned and intentional use of teacher NVBs on student learning into consideration (Smotrova & Lantolf, 2013).

Despite the insights provided by this study, as this study is a preliminary investigation or pilot project with a small number of teachers, its findings should not be generalized. In designing full-fledged further studies, the following limitations in the current study should be taken into consideration. First, only one lesson of each of the three teachers was observed. Moreover, the content of the three teachers' lessons differed, which may have influenced the difference in the ratio of L2 use and the frequency of NVB use.

Finally, retrospective data, which could have revealed influencing factors, such as the teachers' personal propensity for gestures and whether their gesture use served internal or external purposes, was not collected. Future research should be longitudinal with more teacher participants; moreover, it should include retrospective interviews to elicit the thought processes behind the teachers' use of NVBs and gestures, as well as retrospective data of the students that could demonstrate the actual effects of NVBs on comprehension. We also have to consider the effect of cultural differences among teachers on how they use gestures in the class. Searches for cross-cultural comparison of gestures are definitely needed. If the findings and analyses of the results presented in the current study are supported with further research, teachers and teacher educators should be able to benefit from a new understanding of the impact of the effective use of NVBs in English-medium EFL lessons.

### Notes

<sup>1</sup> The STEP Test is an English proficiency test conducted by a Japanese non-profit organization, the Society for Testing English Proficiency, Inc. (STEP), and backed by the Japanese Ministry of Education, Culture, Sports, Science, and Technology (MEXT). The test consists of listening and writing sections followed by a speaking test, and has been generally regarded as one of the most reliable and valid English proficiency tests in Japan. MEXT requires Japanese teachers of English to possess at least pre-first grade scores on the STEP test.

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## Appendix

### Transcription Symbols

K : Kouki

Y : Yuki

M : Miki

S : Student

Ss : Majority of the students

(( )) : Explanation of nonverbal behavior

(( )) : Nonverbal student reactions

... : Silence

**Boldface** : Stressed sound

? : Rising intonation

Underline : Where the error or problem occurred

[ ] : Type of NVB