

L2 acquisition of *teiru*: Speech time and feature assembly

Atsushi Fujimori¹, Noriko Yoshimura², Mineharu Nakayama³, and
Koichi Sawasaki²

¹Shizuoka University, ²University of Shizuoka, and ³The Ohio State University/National
Institute for Japanese Language and Linguistics

1. Introduction

This paper reports experimental results on whether English- and Chinese-speaking L2 learners of Japanese understand the dual aspectual meanings of the form *-teiru* from a form-meaning association perspective. It is a generally adopted view that *-teiru* can yield two aspectual semantic interpretations, i.e. “progressive/ongoing” and “perfective/resultative”, as shown in (1) (Kindaichi 1950; Kuno 1973; Li and Shirai 2000; Ogihara 1998).

- (1) a. Jiro-ga isshuukan kanada-ni taizaishi-te iru.
Jiro-Nom one week Canada in stay-Ger¹ is
‘Jiro has stayed in Canada for one week.’
‘Jiro has been staying in Canada for one week.’
- b. Kanada-kara-no hikooki-ga Narita kuukoo-ni tsui-te iru.
Kanada-from-Gen airplane-Nom Narita Airport at arrive-Ger is
‘The plane from Canada has arrived at Narita Airport.’

In situation like (2), Jiro is still staying in Canada when the speaker is talking about him. Thus, the relevance of speech time is expressed in present perfect as in (1a). If Jiro has already left Canada when the speaker is uttering, (1a) is not appropriate.

- (2) Jiro is talking to Mary on the phone about his life in Canada. Jiro says, “A week ago I came to Canada with a working holiday visa. I am now studying linguistics at a college in Montreal. I will be here till the end of the term.”

¹ *Ger* stands for gerund, indicating that the *te* of *-teiru* attached to a verb stem is a gerund form of the verb.

On the other hand, the situation in (1b) is that the plane has already arrived at Narita from Canada, and is still sitting in the airport. Thus, the present speech time makes the relevance of the current resultant state. Consequently, *-teiru* yields a resultative reading, not a progressive meaning, for the verb *tsuk(u)*, as in (1b). In short, *-teiru* does not establish a one-to-one relation between the form and the meaning.

As seen in the translations in (1), however, English has two different forms, *be V-ing* for the ongoing process interpretation and *have V-en* for the resultant state interpretation. The examples in (3) illustrate this morphological distinction.

- (3) a. John is playing the guitar. (progressive)
 b. John has arrived in Tokyo. (resultative)

(3a) denotes John's activity of playing the guitar currently in progress (ongoing) whereas (3b) refers to John's arrival and current stay in Tokyo (resultative). In other words, the relationship between the form and the meaning is one to one in English, unlike in Japanese.

Chinese is like English in that it has two different forms, *zai* for the ongoing process interpretation and *-le* for the resultant state interpretation, as in (4).

- (4) a. Lisi zai chuan yi-jian qunzi. (progressive)
 Lisi ZAI put.on one-CL skirt
 'Lisi is putting on a skirt.'
 b. Lisi da-po-le yi-ge beizi. (resultative)
 Lisi hit-break-LE one-CL cup
 'Lisi broke a cup (and the broken pieces of the cup may still be on the ground).'
- (Klein and Hendriks 2000)

The *zai* sentence in (4a) denotes Lisa's current activity of wearing a skirt whereas the *-le* sentence in (4b) describes the present result of Lisa's having broken a cup. That is, a one to one relationship also holds between the form and the meaning in Chinese.

Table 1 is a summary of the morphosemantic mappings in Japanese vs. English and Japanese vs. Chinese.

Table 1. Tense/Aspect meaning-form correspondences in Japanese, English, and Chinese

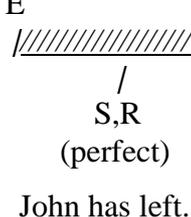
Semantic reading	Japanese forms	English forms	Chinese forms
Present Perfect	<i>V-teiru</i>	<i>Have V-en</i>	<i>V-le</i>
Present Progressive	<i>V-teiru</i>	<i>Be V-ing</i>	<i>Zai</i>

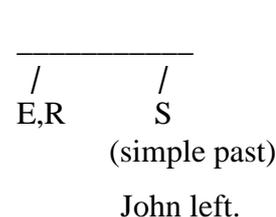
The discrepancy between the absence of one-to-one morphosemantic relationships in Japanese and the presence of such relations in English and Chinese points to an interesting question, namely, does L1 transfer occur in the form-meaning mappings during the acquisition of Japanese *-teiru* by English- and Chinese-speaking L2 learners of Japanese? We report the results of our experiment conducted to explore this question.²

The organization of the paper is as follows. The following section provides a linguistic background discussion. Some previous studies on tense-aspect are briefly discussed in Section 3. Section 4 shows the design of our experiment, followed by results and discussion in section 5. Section 6 provides a general theoretical discussion and our concluding remarks are in Section 7.

2. Theoretical background

The theoretical framework adopted in this study is based on ‘speech time’ conceptually and ‘feature assembly’ linguistically. It is a well-known fact that the past tense form *-ta* in Japanese may denote an event in the present perfect as well as in the past. Moens and Steedman (1988) show the relationship between Event (E), Reference (R) and Speech (S) times and forms in English as in (5).

- (5) a. Past
 E


 b. Past


² Yoshimura et al. (2014) discussed the empirical evidence that the lack of the uniform morphosemantics of *-teiru* was responsible for Japanese EFL learners’ difficulty with the present perfect for continuous events in English.

When an event is in the past, but speech and reference times are present, the present perfect form *has left* is used as in (5a). However, Japanese uses the same morpheme *-ta* for simple past and present perfect. For instance, the sentence in (6) becomes a counterpart of either (5a) or (5b). That is to say, Jiro is not currently staying in Canada when *-ta* is interpreted as simple past. In contrast, when present speech time becomes relevant, it takes an experiential reading.

- (6) Jiro-ga issshuukan kanada-ni taizaishita.
 Jiro-Nom one week Canada in stayed
 ‘Jiro stayed in Canada for one week.’
 ‘Jiro has stayed in Canada for one week.’

Furthermore, as seen in (1a), which we repeat here as in (7), the *-teiru* form can also be used when the present speech time and the durative aspect become relevant, thereby inducing the progressive reading.

- (7) Jiro-ga issshuukan kanada-ni taizaishi-te iru.
 Jiro-Nom one week Canada in stay-Ger is
 ‘Jiro has stayed in Canada for one week.’
 ‘Jiro has been staying in Canada for one week.’

Relevant to this *-ta* vs. *-teiru* distinction is Vendler’s (1967) proposal for the classification of aspectual characteristics of verbs.³

Table 2. Vendler’s (1967) aspectual classes and relevant semantic features

	Telic	Durative
ACT(ivity)	–	+
ACC(omplishment)	+	+
ACH(ievement)	+	–

The verb in (1b) (*tsuku*) is classified as an achievement (ACH) type verb in Table 2. It is telic and dynamic, but semantically [-durative]. When durative *-teiru* is attached to the

³ Statives are not included here because we do not discuss them in this paper.

verb as in *tsuiteiru* in (1b), it receives a present perfect reading, implying that the plane has landed and has been sitting at the gate. It is still at the gate when the sentence is uttered. On the other hand, activity (ACT) and accomplishment (ACH) verbs are [+durative] and when they appear with durative *-teiru* as in *oshieteiru* and *tsukutteiru* in (8a) and (8b), respectively, both receive progressive, ongoing readings.

(8) a. ACT

Jiro-ga kookoo-de eigo-o oshie-te iru.

Jiro-Nom high school at English-Acc teach-Ger is

‘Jiro is teaching English at a high school.’

b. ACC

Jiro-ga keeki-o tsukut-te iru.

Jiro-Nom cake-Acc make-Ger is

‘Jiro is making a cake.’

Sentence (8a), which includes the activity verb *oshie(ru)* ‘teach’ with *-teiru*, is interpreted as present progressive. So is (8b) with the accomplishment predicate phrase *keeki-o tsuku(ru)* ‘make a cake’.⁴

These suggest that basically, *-teiru* with an achievement verb is resultative (present perfect) whereas that with activity and accomplishment verbs are present progressive/ongoing. What underlies this aspectual distinction is an association of the lexical semantic feature [+/-durative] of a verb with a combination of the grammatical features [+/-progressive, +/-perfective] of *-teiru*. On Chomsky’s (2000) Minimalist hypothesis, as roughly stated in (9), we assume the following: select the lexical [+/-durative] feature for a verb and assemble it with the grammatical [+/-progressive, +/-perfective] features of *-teiru* in the morphosemantic mapping process.

(9) Feature Assembly

The acquisition of lexical items includes two processes:

- a. Selection of categorical (*k*) and semantic (Σ) features

⁴ Note that activity and accomplishment verbs are not clear cut in Japanese. Possibly they may need to be classified together in Japanese (see Kindaichi 1950).

- b. Assembly of the features into a particular lexical item (π) ($\{k, \Sigma\} \rightarrow \{\pi\}$).
(Chomsky 2000)

To be more specific, assembling [+durative] together with [+progressive, -perfective], V-*teiru* yields an ongoing interpretation; on the other hand, assembling the [-durative] together with [-progressive, +perfective], V-*teiru* yields a perfective interpretation.

However, Lardiere (2005) shows that L2 learners experience learning problems if the ways in which grammatical features are morphologically clustered are different between L1 and L2. On this view, it is predicted that both English- and Chinese-speaking learners of Japanese face learning problems with the resultative interpretation of *-teiru* because the grammatical feature of V-*ing* in English or *zai* in Chinese encodes progressive alone, they must learn to understand the aspectual semantic feature [+perfective] of *-teiru* and assemble it together with the lexical semantic feature [-durative] of an ACH verb, thereby inducing a resultative interpretation (Nakayama et al. 2014). However, if this feature assembly hypothesis is not a plausible account in second language acquisition, the acquisition of resultative *-teiru* readings should not be delayed relative to that of ongoing *-teiru* readings.

3. Previous studies on *-teiru*⁵

Before discussing the results of our experiment on *-teiru*, we take a brief look at some major findings reported in previous studies. Shirai and Kurono (1998) find learners have a tendency to associate grammatical aspect with verbal aspect in certain ways (namely, atelic verbs with imperfective readings and telic verbs with preterit ones, i.e., Anderson and Shirai's (1994) Aspect Hypothesis). Shibata (1999) reports English-speaking JFL learners incorrectly use the progressive *-teiru* with achievement verbs more often. In a production task, Sheu (2005) finds Chinese-speaking, high intermediate JFL learners performed better in producing the progressive *-teiru* than the resultative *-teiru*. Gabriele (2009) indicates that English-speaking JFL learners showed no major problems in the case of ACH verbs with the *-teiru* form because they yielded only resultative interpretations.

⁵ There are more L2 studies on tense and aspect than those we discuss here, especially on EFL. Readers are referred to the references cited in the studies we discuss and Gabriele and Hughes (2015).

Furthermore, Fujimori et al. (2013) and Yoshimura et al. (2014) looked into how Japanese-speaking learners of English would express ongoing situations at speech time.⁶ For instance, Yoshimura et al. investigated 121 Japanese college students on the differences in English sentences and found that while the near-native group performed well (at around 90%) for both past and present perfect, regardless of the durativity of the event, the lower level speakers found it more difficult to acquire the [+durative] feature in the present perfect in English. They attributed this difficulty to an L1 transfer at the morphology and semantics interface.⁷ A similar trend was expected among English-speaking learners of Japanese, and Nakayama et al. (2014) found that they had difficulty differentiating simple past *-ta* and resultative *-teiru* sentences, and difficulty understanding resultatives as opposed to progressives.

Thus, these previous findings indicate that it is difficult for L2 learners to combine the grammatical features [+/-progressive] and [+/-perfect] appropriately for the semantics of a verb if such learning involves a new or different feature assembling.

4. Experiment

4.1. Participants, materials, and procedure

Eighteen English-speaking learners of Japanese (ENG), 17 Chinese-speaking learners of Japanese (CHN), and 20 native speakers of Japanese (Control) participated in this study. All learners were considered advanced Japanese learners with a score of over 70% in a Japanese proficiency test created based on the past Japanese Language Proficiency Test Levels 2-3 (Itomitsu and Nakayama 2005). Both the ENG and the CHN learner participants were studying Japanese at North American universities at the time of the experiment.

The questionnaire used in Nakayama et al. (2014) was employed in this experiment. It adopted the acceptability judgment task with the 1 (low) – 7 (high) scale, and asked each

⁶ Shirai and Kurono (1998) also claim that it is also difficult for learners of Japanese to acquire durative *-teiru* because of the morphosemantic ambiguity. However, they do not discuss speech time as in Fujimori et al. (2013) and Yoshimura et al. (2014).

⁷ See also Gabriele and Martohardjono (2005), which claim that the form *-ed* is acquired before the aspectual meaning of the simple past (see also Bardovi-Harlig 1992, 2000; Gabriele, Martohardjono, and McClure 2003; Montrul and Slabakova 2002). Their results support the Form-Before-Meaning Hypothesis in L2, which says that the acquisition of aspectual interpretations is delayed relative to that of morphological forms.

participant to rate the acceptability of 36 Japanese sentences that were listed immediately below the situations described in English for the ENG and CHN groups and in Japanese for the Control group (see the instructions used in the Appendix). Example test sentences are given below.

(10) a. ACT

Tom and Cathy were classmates in their high school days and they ran into each other at a shopping mall. Since Tom was asked about his job, he replied: “After finishing school, I started teaching high school English and 10 years have passed. I am still teaching there.”

*Tomu-wa kookoo-de 10-nen kan eigo-o oshie-te-imasu.*⁸

Tom-Top high school-at 10 years for English-Acc teach-Ger is

‘Tom has been teaching high school English for 10 years.’

‘Tom has taught high school English for 10 years.’

(Unacceptable) 1 ... 2 ... 3 ... 4 ... 5 ... 6 ...7 (Acceptable) I don’t know

b. ACC

Today is my mother’s birthday, so I am making a cake for her.

Watashi-wa okaasan-no tanjoobi-ni keeki-o tsukut-te-imasu.

I-Top mother-Gen birthday on cake-Acc make-Ger is

‘I am making a cake on my mother’s birthday.’

(Unacceptable) 1 ... 2 ... 3 ... 4 ... 5 ... 6 ...7 (Acceptable) I don’t know

c. ACH

The plane has arrived at Narita Airport from Chicago. Bill is waiting for his friend to come out from the gate.

Chicago-kara-no hikooki-wa Narita kuukoo-ni tsui-te-imasu.

Chicago-from-Gen airplane-Top Narita Airport at arrive-Ger is

⁸ The verb stem *imasu* is a polite form of *iru*.

‘The plane from Chicago has arrived at Narita.’

(Unacceptable) 1 ... 2 ... 3 ... 4 ... 5 ... 6 ...7 (Acceptable) I don’t know

Two versions of the questionnaire were created, and each version contained 30 sentences. Each verb type (ACT, ACC, and ACH) had six sentences, three of which were with *-teiru* in one version, i.e., 9 *-teiru* tokens (3 tokens each for the ACT, ACC, and ACH verb types), and the rest, 9 *-ta* counterparts, in the same questionnaire. Another version is reversed. For instance, Version A had the sentence with *oshiete imasu* ‘is teaching’ in (10a), while Version B had *oshiemashita* ‘taught’. Each participant saw only one version. That is, they rated 18 test sentences and 12 filler sentences in the questionnaire. The following verbs were used. See Appendix for the detail.

- (11) ACT: *aruku* ‘walk’, *neru* ‘sleep’, *yomu* ‘read’
oshieru ‘teach’, *untensuru* ‘drive’, *benkyoosuru* ‘study’
ACC: *taberu* ‘eat’, *toru* ‘take (a picture)’, *kau* ‘buy’
nomu ‘drink’, *tsukuru* ‘make’, *kaku* ‘write’
ACH: *tsuku* ‘arrive’, *kaeru* ‘return’, *gaishutsusuru* ‘go out’
tsuku ‘light’, *deru* ‘appear’, *owaru* ‘end’

The ACT and ACC verbs were provided with ongoing process situations while the ACH verbs were with resultative situations. The participants were divided into two groups, and each group saw only one sentence type of the *-teiru/ta* pairs, but every participant saw the same verbs with the *-teiru/ta* variation.

5. Results and discussion

Table 3 shows the average scores of the *-teiru* and *-ta* sentences by the ENG, CHN, and Control groups. The average scores of the two learner groups are similar to those of the Control group except the ACH and the ACT with *-teiru*. The numbers in the parentheses are standard deviations.

Table 3. Mean acceptability ratings of the *-ta* and *-teiru* sentences by group

	ENG (n=18)		CHN (n=17)		Control (n=20)	
	<i>-ta</i> (SD)	<i>-teiru</i> (SD)	<i>-ta</i> (SD)	<i>-teiru</i> (SD)	<i>-ta</i> (SD)	<i>-teiru</i> (SD)
ACT	2.98 (1.96)	5.73 (1.81)	4.02 (2.00)	5.48 (1.83)	3.59 (2.39)	6.73 (0.94)
ACC	2.81 (1.78)	6.10 (1.42)	3.60 (2.13)	5.58 (1.74)	3.56 (2.17)	6.05 (1.61)
ACH	5.04 (2.07)	4.77 (2.17)	5.08 (1.80)	4.46 (2.17)	5.40 (2.19)	6.27 (1.49)

A general trend is that both learner groups differentiated progressive *-teiru* and simple past *-ta* in ACT and ACC better than resultative *-teiru* and simple past *-ta* in ACH. As a matter of fact, they rated low for *-teiru* in ACH (ENG 4.77 and CHN 4.46 relative to Control 6.27). Since our focus is on the *-teiru* sentences, we discuss their statistical results exclusively here. A 3x3 ANOVA indicated a significant effect for verb/situation type ($F(2,504)=11.986$, $p<0.001$) and group ($F(2,504)=18.688$, $p<0.001$) as well as a significant interaction between the two factors ($F(4,504)=3.310$, $p=0.011$). Post-hoc comparisons revealed that in ACH with the resultative interpretations, the two learner groups did show a significant difference from the Control group, unlike in ACC with the progressive interpretations (ACH: ENG vs. Control/CHN vs. Control, $ps<0.001$). Note also that the two learner groups were significantly different from the Control group in ACT (ENG vs. Control, $p=0.13$, CHN vs. Control, $p=0.002$). This emerged from the Control group's almost perfect performance: For (10a), one of the ACT test sentences, for example, all of the 20 JPN participants rated 7 whereas the ENG group rated 6, and the CHN group rated 5.2 on average.

Overall, these results suggest that neither learner group performed well on the resultative interpretations relative to the ongoing interpretations of *-teiru* (cf. Sheu (2005) on Chinese-speaking learners). Given the fact that these learner participants are advanced learners, this finding suggests that the learners need time to acquire the full-fledged knowledge of *-teiru* in L2 Japanese, regardless of their L1, though their L1s are the same type in that there are two distinct forms for present progressive and perfect. If frequency matters and the acquisition process go as the Aspect Hypothesis predicts, then *-teiru* with ACH is interpreted as resultative first and it is relatively easy to adjust the interpretations

of ACT and ACC with *-teiru* as ample mismatch situations arise. However, the difficulty continues even among the advanced learners.

6. Form realization and feature assembly

The results of our experiment identified L1 transfer as a possible leading factor responsible for the learner groups' difficulty with the resultative *-teiru* reading. This is what we predicted based on the feature assembly hypothesis, as discussed in Section 2. That is, this L1 transfer can be accounted for in the following way. On the assumptions that lexical aspect interacts with grammatical aspect to induce aspectual interpretations and that aspect is parameterized (Smith, 1977),⁹ L2 learners need to acquire the semantic compatibility of *-teiru* with the lexical aspectual [-durative] feature of verbs for resultative interpretations in addition to the [+durative] progressive interpretations. We interpret the current results to show that English- and Chinese-speaking learners of Japanese incorrectly take the *-teiru* form as fully compatible with their progressive form, *be V-ing* (10a) or *zai* (11a), hence failing to reject the ACH resultative interpretation with *-teiru*. This is a morphosemantic mismapping phenomenon at the morphosyntax-semantics interface due to L1 transfer.

More specifically, based on Lardiere's (2000, 2005, 2008) feature assembly hypothesis, we assume that such a morphosemantic mismapping arises as an instance of learners' misapplication of their L1 feature-to-form mapping in L2 interpretation. That is, L2 Japanese learners must understand that the verbal [-durative] feature can be associated with the grammatical [-progressive, +perfective] features of *-teiru*.¹⁰ That is, they need to learn to assemble relevant semantic features for a certain morphological form during the course of L2 acquisition. More significantly for the current study, both ENG and CHN participants must learn that the [-progressive, +perfective] feature is assembled when the morphological form *-teiru* is associated with ACH verbs, thereby producing the resultative interpretation, whereas the [+progressive, -perfective] feature is assembled when it is associated with the ACT and ACC verbs, thereby inducing the progressive interpretation. The results of the present study confirms that the progressive feature-form mapping does not take much time for ENG and CHN learners of Japanese because they

⁹ Significantly for the present discussion, we assume that the assembling of aspectual features is parameterized.

can soon learn to identify the aspect semantics of *-teiru* with that of *be V-ing* in English or *zai* in Chinese (positive L1 transfer). However, the resultative feature-form mapping constitutes a learning problem for both learner groups because the resultative interpretation is morphologically realized with *have V-en* in English and *-le* in Chinese (negative L1 transfer).

If this feature assembly account is on the right track, the mappings from semantic features to morphological forms seem to induce a great vulnerability among L2 learners. Given that L2 advanced learners did not perform properly with the resultative *-teiru* interpretation, we suspect that their variability may lead to fossilization.

7. Concluding remarks

The present study investigated L2 learners' understanding of *-teiru*. Our experiment included English- and Chinese-speaking learners of Japanese. Though English and Chinese differ, they both have distinct forms for present progressives and present perfect, unlike Japanese. Both learner groups were advanced speakers, yet had difficulties interpreting the resultative *-teiru* sentences as opposed to the progressive sentences. We proposed a semantic feature assembly account for this contrast by assuming that such an L1 transfer problem emerges at the form-meaning mapping interface in L2 acquisition. That is, additional learning is required for these learners by assembling the aspectual features [+/-progressive] and [+/-perfective] for the resultative reading with *V-teiru*. Finally, since past *-ta* and resultative *-teiru* in ACH did not bring a large clear difference like *-ta* and progressive *-teiru* in our experimental stimuli, we may need to create much clearer situational differences and test them for the speech time relevance in future research.

Acknowledgements

Portions of this paper were presented at the 7th Formal Approaches to Japanese Linguistics (FAJL 7). We thank the audience of the conference, Laura Wagner, Yasuhiro Shirai, and an anonymous *Ars Linguistica* reviewer for their useful comments. All shortcomings are, of course, ours. This research has been supported by the Grant-in-Aid for Scientific Research (B) 233020116 from the Japan Society for the Promotion of

¹⁰ This is part of what Lardiere (2008) calls 'morphological competence'.

Science. We also thank the University of Shizuoka and the Ohio State University Department of East Asian Languages and Literatures and the Institute for Japanese Studies for their support.

References

- Andersen, R. W., & Shirai, Y. (1994). Discourse motivations for some cognitive acquisition principles. *Studies in Second Language Acquisition*, 16, 133-156.
- Bardovi-Harlig, K. (1992). The relationship between form and meaning: A cross-sectional study of tense and aspect in the interlanguage of learners of English as a second language. *Applied Psycholinguistics*, 13, 253-278.
- Bardovi-Harlig, K. (2000) *Tense and aspect in second language acquisition: Form, meaning and use*. Oxford: Blackwell.
- Chomsky, N. (2000) *New horizons in the study of language and mind*. Cambridge, UK: Cambridge University Press.
- Fujimori, A., Yoshimura, N., Nakayama, M., Sawasaki, K., & Takeda, S. (2013). Acquisition of English perfectives by Japanese adult learners. *Ars Linguistica*, 20, 62-72.
- Gabriele, A. (2009). Transfer and transition in the L2 acquisition aspect. *Studies in Second Language Acquisition*, 31, 371-402.
- Gabriele, A., & Martohardjono, G. (2005). Investigating the role of transfer in the L2 acquisition of aspect. *Proceedings of Generative Approaches to Second Language Acquisition 7* (pp. 96-110) Summerville, MA: Cascadilla Press.
- Gabriele, A., & Hughes, M. S. (2015). Tense and aspect in Japanese as a second language. In M. Nakayama (Ed.), *Handbook of Japanese Psycholinguistics* (pp. 271-302). Boston: De Gruyter Mouton.
- Gabriele, A., Martohardjono, G., & McClure, W. (2003). Why swimming is just as difficult as dying for Japanese learners of English. *ZAS Papers in Linguistics*, 29, 85-103.
- Itomitsu, M., & Nakayama, M. (2005). Japanese language proficiency test: Practice test. Ms. The Ohio State University.

- Kindaichi, H. (1950). *Kokugo dōshi no ichibunrui* [One categorization of Japanese verbs]. *Gengo Kenkyū* [Language Research] 15, 48-63.
- Klein, W., Li, P., & Hendriks, H. (2000). Aspect and assertion in Mandarin Chinese. *Natural Language and Linguistic Theory*, 18, 723-770.
- Kuno, S. (1973). *The structure of the Japanese language*. Cambridge, MA: MIT Press.
- Lardiere, D. (2000). Mapping features to forms in second language acquisition. In J. Archibald (Ed.), *Second language acquisition and linguistic theory* (pp. 102-129). Malden, MA: Blackwell.
- Lardiere, D. (2005). On morphological competence. *Proceedings of the 7th Generative Approaches to Second Language Acquisition Conference (GASLA 2004)* (pp. 178-192). Somerville, MA: Cascadilla.
- Lardiere, D. (2008). Feature-assembly in second language acquisition. In J. M. Liceras, H. Zobl, & H. Goodluck (Eds.), *The role of formal features in second language acquisition* (pp.106–140). New York: Lawrence Erlbaum.
- Li, P., & Shirai, Y. (2000). *The acquisition of lexical and grammatical aspect*. Berlin: Mouton de Gruyter.
- Moens, M., & Steedman, M. (1988). Temporal ontology and temporal reference. *Computational Linguistics*, 14(2), 15-28.
- Montrul, S., & Slabakova, R. (2002). Acquiring morphosyntactic and semantic properties of aspectual tenses in L2 Spanish. In A. T. Perez-Lerouz & J. M. Liceras (Eds.), *The acquisition of Spanish morphosyntax: The L1-L2 connection* (pp.113- 149). Dordrecht: Kluwer.
- Nakayama, M., N. Yoshimura, & K. Sawasaki (2014) Sensitivity to the continuity in speech time: Acquisition of TE IRU by JSL learners. Presented at The 8th International Conference on Practical Linguistics of Japanese at the National Institute for Japanese Language and Linguistics.
- Ogihara, T. (1998). The ambiguity of the *-te iru* form in Japanese. *Journal of East Asian Linguistics*, 7, 87-120.
- Sheu, S.-P. (2005). *Nihongo gakushūsha ni yoru asupekuto no shūtoku*. [Acquisition of aspect by learners of Japanese]. Tokyo: Kurosio publishers.

- Shibata, M. (1999). The use of Japanese tense-aspect morphology in L2 discourse narratives. *Acquisition of Japanese as a Second Language*, 2, 68–102.
- Shirai, Y., & Kurono, A. (1998). The acquisition of tense-aspect marking in Japanese as a second language. *Language Learning*, 48, 245-279.
- Smith, C. S. (1997). *The parameter of aspect*. Dordrecht: Kluwer.
- Vendler, Z. (1967). Verbs and times. In Z. Vendler (Ed.), *Linguistics in philosophy* (pp.97-121). Ithica, NY: Cornell University Press.
- Yoshimura, N., Nakayama, M., Fujimori, A., & Sawasaki, K. (2014). L2 acquisition of grammatical aspect in English. In C.-Y. Chu, C. E. Coughlin, B. Lopez Prego, U. Minai, & A. Tremblay (Eds.), *Selected proceedings of the 5th Conference on Generative Approaches to Language Acquisition North America* (pp.140-149). Summerville, MA: Cascadilla Press.

Appendix

Instruction

Each item below provides a situational description and a test sentence. After reading the situation, please judge how acceptable the test sentence is to describe the situation. If the test sentence is perfectly acceptable, circle 7. If the test sentence is unacceptable, circle 1. Please indicate the degree of the acceptability of the sentence. If you don't understand, please circle "I don't understand". Please start with the practice questions P1~P2. The total number of question is 36.

Practice

- P1. My brother is a high school English teacher.
My brother teaches English at a high school.
 (Unacceptable) 1 ... 2 ... 3 ... 4 ... 5 ... 6 ...7 (Acceptable) I don't understand
- P2. Last winter we had a lot of snow, and it was cold.
We had a warm winter last year.
 (Unacceptable) 1 ... 2 ... 3 ... 4 ... 5 ... 6 ...7 (Acceptable) I don't understand

In P1, you would circle 7 because the situation and the sentence match. In P2, the situation is a cold winter, but the test sentence says it was a warm winter. So you would circle 1 because it is unacceptable. Do you understand how to do this questionnaire? If so, please proceed.

Test sentences

ACT

- Naoko is a race walker and trains every day. She is now walking with her coach.
 なおこは今コーチと歩きました/歩いています。
- John went to bed at 3 am, and it is now 10 am. He is still in bed.

- ジョンは寝ました/寝ています。
3. Suzy reads a newspaper early every morning. It is now 10 am, but she is still reading.
スージーは新聞を読みました/読んでいます。
 4. Tom and Cathy were classmates in their high school days and they ran into each other at a shopping mall. Since Tom was asked about his job, he replied: "After finishing school, I started teaching English at a high school and 10 years have passed. I am still teaching there."
トムは高校で10年間 英語を教えています/教えました。
 5. Taro left Shizuoka for Tokyo at 6 am in the morning. It's 10 am now, but he is still driving.
太郎は4時間運転しています/運転しました。
 6. Mary has a test tomorrow. After coming back home at 5pm, she has been studying. It is now 10 am, but she is still studying.
マリーは勉強しています/勉強しました。

ACC

1. It is lunch time. Children are eating ham sandwiches in the dining room.
(今お昼です。) 子供たちはハムサンドイッチを食べました/食べています。
2. Kenji bought a new camera and he is now taking a picture of Yoko.
健二は洋子の写真を撮りました/撮っています。
3. Hanako has found a lovely red dress at the store. She is now buying it because it is not expensive.
花子は赤いドレスを買いました/買っています。
4. Today is my mother's birthday, so I am making a cake for her.
私は誕生日のケーキを作っています/作りました。
5. My aunt gave my brothers melon juice from Japan. They are now drinking her melon juice.
弟たちはおばさんのメロンジュースを飲んでいます/飲みました。
6. Tokuko is now writing a book about Japanese.
とく子は日本語の本を書いています/書いた。

ACH

1. When I went to the professor's office, his room was dark. When he is in, you see his office light is on.
教授の部屋の電気が消えました/消えています。
2. Now it is 10 pm. The concert has just ended, as scheduled.
コンサートは終わりました/終わっています。
3. Tonight is the full moon and the large moon has appeared in the western sky.
大きな月が西の空に出ました/出ています。
4. The plane has arrived at Narita Airport from Chicago. Bill is waiting for his friend to come out from the gate.
シカゴからの飛行機は成田空港に着いています/着ました。
5. Takashi came from a business trip last night. He is home this weekend.
たかしは出張から 帰っています/帰りました。
6. Lisa went shopping and has not come back yet.
理沙は外出しています/外出した。