Aspectual Interpretation in Second Languages: A Bidirectional Study of L2 English and L2 Japanese

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1. Introduction

Over the past few decades, a number of studies have been conducted to investigate whether second language (L2) learners can acquire target-like functional categories and features. This study examines L2 learners' knowledge of semantic consequences of functional categories and relevant features by focusing on the L2 acquisition of the aspectual interpretation in English and Japanese.

There is plenty of evidence to shows L2 learners' variable use of functional morphology. Although it has been an object of study for a long time, there is little agreement on the reason for the variability. Concerning the reasons, two distinct views are put forward: the Full Functional Representation view and the Impaired Functional Representation view (Slabakova 2003). In the Full Functional Representation view, on the one hand, it is argued that L2 learners are able to construct the target-like syntactic representation, and that the variable use of functional morphology is due to problems residing in a process of overt realisation of morphology (Lardiere 1998a, b; Prévost and White 2000; among other things). On the other hand, researchers arguing for the Impaired Functional Representation view maintain that L2 learners are not able to construct the target-like syntactic representation. Accordingly, the inconsistent use of functional morphology is attributed to their impairment of functional categories and features. Among these researchers, some claim that UG is not available in the L2 acquisition at all; others claim that L2 learners can only acquire functional categories and features which are present in their L1 (Hawkins and Chan 1997). Studies taking the latter position further advance a more elaborate hypothesis, the 'Interpretability Hypothesis', which argues that L2 learners cannot acquire uninterpretable features which are not instantiated in their L1 (Hawkins et al. 2008; Tsimpli 2003; Tsimpli and Mastropavlou 2008).

In this paper, I test the Interpretability Hypothesis by examining whether Japanese-speaking learners of English and English-speaking learners of Japanese can acquire knowledge of aspectual meanings of morphological forms, such as the simple form and the *be* V-*ing* form of English, and the -*ru/ta* form and the -*te-i*- form of Japanese.

2. Background
2.1. The General Theory of Aspect

Aspect is defined in Comrie (1976:3) as 'ways of viewing the internal temporal constituency of a situation.' Aspectual information of a situation is conveyed by a situation aspect and a viewpoint aspect interactively (Smith 1997). The former refers to a temporal property of a situation. The situation is classified as a certain type of a state or of an event in terms of its dynamism, telicity and durativity. The latter refers to a particular perspective of viewing a situation, such as perfective or imperfective. The viewpoint aspect is usually signalled by grammatical morphemes.

Situation aspect (also labelled lexical aspect or *Aktionsart*) is a semantic category, which is determined by a verb, its arguments, complements of the verb and adverbials compositionally (Smith 1997). Situations are classified into four classes: state, activity, accomplishment and achievement (Vendler 1967). The following are examples of each situation type:

(1) State: love, want, believe in
    Activity: run, swim, push a cart
    Accomplishment: run a mile, draw a circle, build a house
    Achievement: win the race, reach the top

These four situation types can be categorised according to inherent aspectual properties, [±dynamic], [±telic] and [±durative] (Comrie 1976). Table 1 illustrates the Vendler's classification based on the binary aspectual properties. First, a dynamic situation is defined as the situation involving change. Second, a telic situation is an event with an inherent endpoint. Third, a durative situation is the situation which lasts for a certain period of time.

Table 1. Semantic features of the situation types

Situation types / Aspectual properties	State	Activity	Accomplishment	Achievement
Dynamic	-	+	+	+
Telic	N/A[1]	-	+	+
Durative	+	+	+	-

Viewpoint aspect provides situations with a certain perspective; in other words, an aspectual viewpoint focuses either on a whole situation or on a part of a situation. The main viewpoint aspects are perfective and imperfective. The viewpoint aspect is marked by inflectional morphology on the verb; for instance, the perfective viewpoint is realised by the simple form in English.

2.2. Aspect in English

In this study, I assume Adger's (2003) analysis of morphosyntactic properties of tense and aspect in English, and adopt Hawkins et al.'s (2008) proposal about the relationship between the syntactic operations and their semantic consequences within the Minimalist framework. According to Adger (2003), the syntactic representations of the present tense form, the past tense form and the progressive form in English involve the operation Agree between features of v and T. Agree is defined as follows (Adger 2003: 169):

(2) Agree
    In a configuration
                    X[F: val] … Y[uF:]
    where … represents c-command, then F checks and values uF, resulting in:
                    X[F: val] … Y[uF: val]

Here, F is an interpretable feature, uF is an uninterpretable feature and 'val' is a feature value. The checked uninterpretable feature is deleted, so that the derivation converges. For instance, the past tense marking is realised when the uninterpretable feature of v is valued as [past] by the interpretable feature on T and it is deleted as illustrated in (3):

(3) T[past] … v[uInfl]   → T[past] …v[uInfl: past]

As for the progressive marking, Adger proposes that the auxiliary *be* has a categorical feature [Prog(ressive)], and *be* projects ProgP above vP. The feature [Prog] values the uninterpretable feature of v, so that v comes to be pronounced with –*ing*. Then uninterpretable feature on v is deleted as shown in (4):

(4) Prog[Prog] … v[uInfl:] → Prog[Prog] … v[uInfl: Prog]

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[1] The concept of telicity is only applied to dynamic situations.

Finally, since the Prog head has a strong uninterpretable feature (i.e., [*u*Infl:*], *be* raises and adjoins to T, and then the uninterpretable feature is valued by a tense feature such as [present] as described in (5):

(5) T[present] … Prog[*u*Infl:*], [Prog] … *v*[~~*u*Infl~~: Prog]
    → T[present], is[Prog, ~~*u*Infl~~:* present] … <is> … *v*[~~*u*Infl~~: Prog]

Following Déchaine and Manfredi (2000), Hawkins et al. (2008) assume that syntactic phenomena such as T-*v* agreement, Progressive raising and verb raising have semantic consequences[2]. Specifically, the habitual meaning of the simple form is triggered by T-*v* agreement, and the event-in-progress meaning of the *be* V-*ing* form is obtained by T-*v* agreement and Progressive raising to T in English. These meanings are not influenced by situation types of predicates such as state, activity, accomplishment and achievement because these meanings are determined based on the T-*v*P configuration.

2.3. Aspect in Japanese

Japanese also has morphological elements on verbs expressing aspectual meanings. First, the V-*ru* form, which marks the nonpast tense, and the V-*ta* form, which marks the past tense, express the habitual meaning:

(6) a. Mary-wa   maiban   piano-o   hi-ku.
        Mary-TOP   every evening   piano-ACC   play-NONPAST
        'Mary plays the piano every evening.'
    b. Mary-wa   maiban   piano-o   hii-ta.
        Mary-TOP   every evening   piano-ACC   play-PAST
        'Mary would play the piano every evening.'

Next, the –*te-i-* form express the event-in-progress meaning with activities and accomplishments, and the resultative state with achievements as shown in (7):

(7) a. Mary-ga   piano-o   hii-te-i-ru.   (ACTIVITY)
        Mary-NOM   piano-ACC   play-te-i-NONPAST[3]
        'Mary is playing the piano.'
    b. Mary-ga   iti-mai-no   e-o   kai-te-i-ru.   (ACCOMPLISHMENT)
        Mary-NOM   one-CL-GEN   picture-ACC paint-te-i-NONPAST
        'Mary is painting a picture.'
    c. John-wa   ie-ni   tui-te-i-ru.   (ACHIEVEMENT)
        John-TOP   home-at   arrive-te-i-NONPAST
        'John has arrived at home.'/ #'John is arrive at home.'

Note that the –*te-i-* form of achievements expresses the resultative state rather than the event-in-progressive meaning; namely, the –*te-i-* form of 'arrive' means 'has arrived' instead of 'is arriving' as indicated in (7c). From these examples, we can see that the interpretation of the Japanese viewpoint aspectual marker is influenced by the inherent aspectual properties of predicates, unlike English.

Finally, the –*te-i-* form also expresses the habitual meaning irrespective of predicate types as shown in (8):

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[2] For the detailed discussion of these syntactic operations and their semantic consequences, see Déchaine and Manfredi (2000), and Hawkins et al. (2008).

[3] The morpheme –*te-i-* is always followed by the tense marker –*ru* or –*ta*. Uesaka (1996) proposes that the V-*ru/ta* form is in fact the V-ø-*ru/ta*, where ø is the null perfective marker while the V-*te-i-ru/ta* form consists of a verb, the imperfective marker –*te*, the auxiliary –*i* and a tense marker. This proposal enables us to understand the contrast of the-V-*ru/ta* form and the V–*te-i-(ru/ta)* form clearly.

(8) Himanatoki itumo, Ken-wa terebi-o mi-te-i-ru.
　　free time always Ken-TOP TV-ACC watch-te-i-NONPAST
　　'Whenever he is free, Ken watches TV.'

The syntactic properties of the Japanese temporal and aspectual morphemes mentioned above are accounted for by Hawkins et al. (2008). They argue that the morpheme –*ru* and -*ta* are tense auxiliaries, which directly merge to T; in other words, the tense marking in Japanese does not involve T-*v* agreement. Accordingly, it is assumed that *v* does not have an uninterpretable feature to be checked although T has an interpretable feature, [present] or [past]. Likewise, the morpheme –*te* of the V-*te-i-*(*ru/ta)* form is assumed not to have an uninterpretable feature. This is suggested by the fact that the interpretation of –*te* is influenced by inherent aspectual properties of predicates as we can see in the sentences in (7); namely, the interpretation is not determined at the T-*v*P configuration.

3. Previous Studies on the Acquisition of Aspect

First language (L1) acquisition research on aspect argues that young children are likely to be influenced by inherent aspectual properties of verbs in the acquisition of verbal inflections. For instance, Bronckart and Sinclair's (1973) experimental study revealed that French children mostly described telic events in the passé composé (i.e., the perfective past tense), while they described atelic events in the présent. Likewise, Antinucci and Miller's (1976) longitudinal analyses of one American and seven Italian children revealed that the past events were referred to and encoded only when they were telic. Bloom, Lifter and Haftiz (1980) also showed that a two-year-old child used the English past marking exclusively for non-durative completive events. These findings lead to the claim that young children tend to use tense morphology to express aspectual properties of situations because they initially do not have the adult-like deictic tense system. This cognitive deficiency account is labelled the 'Defective Tense Hypothesis', 'Aspect Before Tense Hypothesis' or the 'Primacy of Aspect Hypothesis.' Weist et al. (1984), however, carried out longitudinal and cross-sectional studies on the L1 acquisition of Polish verbal inflections, and presented the counterevidence to the cognitive deficiency account.

The influence of aspectual properties on the development of tense and aspect morphology has been pointed out in research on the second language acquisition as well (Andersen 1991, Bardovi-Harlig 1992, Bardovi-Harlig and Reynolds 1995, Robison 1990, among other things). Specifically, the association of the perfective past marking with telic events, the association of the imperfective past marking with atelic events and the association of the progressive marking with atelic events are initially preferred by second language learners. Afterwards, every tense and aspect morphology spreads to all predicate types. This tendency cannot be accounted for by the cognitive deficiency because adult L2 learners have a concept of deictic tense (Slabakova 2001). Thus, researchers have attempted to explain the tendency by introducing alternative accounts such as the Prototype Hypothesis (Shirai and Andersen 1995, Li and Shirai 2000).

Apart from the studies concerning the Primacy of Aspect Hypothesis, a growing number of studies have been conducted on the second language acquisition of aspect within the framework of the generative grammar (Hawkins et al. 2008, Montrul and Slabakova 2003, Slabakova 2003, Slabakova and Montrul 2003). Slabakova (2003), for instance, investigates whether Bulgarian learners of English can acquire the target-like form-meaning correspondence in the domain of viewpoint aspect in order to examine if semantic properties of the functional category, Aspectual Phrase, and its associated features are acquirable even though these features are not instantiated in the L1. Hawkins et al. (2008) inquire into the L2 learners' knowledge of aspectual interpretation to examine whether they can acquire the syntactic operation such as T-*v* agreement and verb raising. What has to be noted here is that the both studies aim to explore L2 learners' abstract syntactic representation by looking at the acquisition of semantic consequences of functional categories and relevant formal features. Although L2 development of abstract syntactic representation has been studied mainly by observing the surface realisation of functional morphology in speech, the presence or the absence of functional morphology may not be a sole indication of L2 learners' abstract knowledge of functional categories and formal features (Hawkins et al. 2008). Therefore, investigations of L2 interpretation are of great significance.

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4. The Study
4.1. Hypothesis

This study was designed to test the Interpretability Hypothesis, which proposes that L2 learners cannot acquire uninterpretable features which are not instantiated in their L1. Table 2 summarises the form-meaning associations of tense and aspect makings in English and Japanese. It also shows whether each meaning is triggered by syntactic operations involving uninterpretable features. If the Interpretability Hypothesis is correct, Japanese-speaking learners of English would be unable to acquire the target-like interpretations of the simple form and the *–ing* form because they cannot learn the uninterpretable feature on *v* and the strong uninterpretable feature on Prog, which are not activated in their L1 acquisition. In contrast, English-speaking learners would acquire the target-like interpretations of the *–ru/ta* form and the *–te-i-* form because they do not need to learn any uninterpretable features.

Table 2. Tense and aspect markings in English and Japanese

| | English | | | Japanese | |
Form	Meaning	*u*F involved?	Form	Meaning	*u*F involved?
simple	habitual	yes	*-ru/ta*	habitual	no
-ing	event-in-progress	yes	*-te-i-*	event-in-progress (ACT, ACC)	no
				resultative state (ACH)	no
				habitual	no

Note. ACT = activity, ACC = accomplishment, ACH = achievement.

4.2. Participants

Concerning the L2 English study, 46 Japanese-speaking learners of English and 7 native speaker controls participated in the experiment. The L2 English learners were classified into four groups based on the results of the Quick Placement Test, whose maximum score is 60. As for the L2 Japanese study, the participants were 24 English-speaking learners of Japanese and 8 native speaker controls. They were divided into four groups based on the results of the grammar section of the J-Test, whose maximum score is 55. Tables 3 and 4 indicate the mean scores, the standard deviations and the ranges of the results of the proficiency tests for the L2 English learners and the L2 Japanese learners, respectively.

Table 3. The results of the proficiency tests of the L2 English learners

Proficiency Level	N	Mean Score	S.D.	Range
Elementary	6	23.33	3.27	19-27
Lower intermediate	15	35.86	2.68	31-39
Upper intermediate	17	42.71	2.11	40-47
Advanced	8	52.63	4.44	48-60

Table 4. The results of the proficiency tests of the L2 Japanese learners

Proficiency Level	N	Mean Score	S.D.	Range
Elementary	9	15.00	4.03	9-22
Lower intermediate	5	24.40	1.67	23-27
Upper intermediate	4	31.75	3.30	28-35
Advanced	6	46.67	4.84	41-53

4.3. Test Instruments

To examine the L2 learners' knowledge of aspectual interpretation, an acceptability judgment task, which was devised based on the Hawkins et al.'s (2008) study, was conducted. In the task, the participants were presented with a context and a continuation, and they were asked to rate the appropriateness of the continuation on a five-point scale, ranging from definitely inappropriate '1', inappropriate '2', not sure '3', appropriate '4' to definitely appropriate '5'. Examples are shown in (9) and (10):

(9) Event-in-progress context
   a.   Mary is not at home now. Maybe…
        she is exercising at a gym.   (appropriate)
   b.   Mary is not at home now. Maybe…
        she exercises at a gym.   (inappropriate)

(10) Habitual context
   a.   Alice really liked to read when she was a child. Every night…
        she read before going to bed.   (appropriate)
   b.   Alice really liked to read when she was a child. Every night…
        she was reading before going to bed. (inappropriate)

For the L2 English study, on the one hand, the task consisted of 52 test items and 4 fillers. The target items were comprised of 16 activities, 16 accomplishments, 16 achievements and 4 states. The results on the states were not analysed in this paper. Half of the target items of activities, accomplishments and achievements were contextually appropriate, and the other half were inappropriate. On the other hand, the task for the L2 Japanese study included 56 target items, which consisted of 16 activities, 16 accomplishments, 16 achievements and 8 states, and 4 fillers. Again, the results of the states were not referred to here. All the test sentences were literal translations of the sentences of the L2 English study except for the verb forms at issue.

4.4. Results
4.4.1. L2 English

First, we look at the results of the L2 English. The simple form is appropriate in habitual contexts whereas it is inappropriate in event-in-progress contexts. Table 5 shows the examples of the test items with the simple form. The appropriateness of the sentences in bold was judged in the task.

Table 5. The examples of the test items with the simple form

Activity	Accomplishment	Achievement
Habitual (appropriate)	*Habitual (appropriate)*	*Habitual (appropriate)*
Bob is a big fan of old films. Whenever he is free, **he watches old films on DVD**.	Satti is a film director in India. She is very busy because ever year **she shoots twenty films**.	Daniel wants to avoid rush hour. So every morning, **he leaves home at five**.
Event-in-progress (inappropriate)	*Event-in-progress (inappropriate)*	*Event-in-progress (inappropriate)*
I heard the sound of a piano in the next room. Maybe **my sister plays the piano in there**.	It is Ann's father's birthday today. Because her mother is away from home now, **she makes a cake alone**.	Mary is really worried about her dog. The dog was hit by a car this morning, and now **it dies**.

The mixed design factorial ANOVA was conducted. The between-subject factor is Proficiency Level, and the within-subject factors were Context (i.e., habitual and event-in-progress), Predicate Type (activities, accomplishments and achievements), and Tense (present and past). It was revealed that there were significant main effects for Context ($F(1,48)=128.83$, $p=.00$), and significant interactions for Proficiency x Context, Context x Predicate Type and Context x Predicate Type x Tense. The main effect of Proficiency was not significant ($F(4,48)=0.12$, $p=.97$). The analyses of simple main effect showed

that Context had a significant effect on all the predicate types and the both tense conditions, suggesting that participants at all the proficiency levels were able to distinguish appropriate and inappropriate contexts irrespective of the predicate types and the tense. Accordingly, the L2 English learners apparently acquired the uninterpretable feature on *v*. Considering that both the English simple form and the Japanese *–ru/ta* form have the habitual meaning, however, we cannot deny the possibility that they might analyse the simple form exactly as the *–ru/ta* form. Thus this result is not robust enough to ensure their acquisition of the uninterpretable feature.

We turn to the results of the interpretation of the *–ing* form. The *–ing* form is appropriate in event-in-progress contexts while it is inappropriate in habitual contexts. Table 6 shows the examples of the test items with the *–ing* form. The cells with the headings in bold indicate that the interpretation of the *–ing* form is different from that of the Japanese apparently equivalent form, the *–te-i-* form.

Table 6. The examples of the test items with the *–ing* form

Activity	Accomplishment	Achievement
Event-in-progress (appropriate) I heard the sound of a piano in the next room. Maybe **my sister is playing the piano in there**.	*Event-in-progress (appropriate)* It is Ann's father's birthday today. Because her mother is away from home now, **she is making a cake alone**.	***Event-in-progress (appropriate)*** Mary is really worried about her dog. The dog was hit by a car this morning, and now **it is dying**.
Habitual (inappropriate) Bob is a big fan of old films. Whenever he is free, **he is watching old films on DVD**.	***Habitual (inappropriate)*** Satti is a film director in India. She is very busy because ever year **she is shooting twenty films**.	***Habitual (inappropriate)*** Daniel wants to avoid rush hour. So every morning, **he is leaving home at five**.

Figures 1 through 3 show the mean scores of the judgment for the activities, the accomplishments, and the achievements, respectively. The mixed design factorial ANOVA revealed that there were significant main effects for Context ($F(1,48)=91.32$, $p=.00$), Predicate Type ($F(2,96)=32.29$, $p=.00$), and significant interactions for Proficiency x Context, Context x Predicate Type, Proficiency x Context x Predicate Type and Context x Predicate Type x Tense.
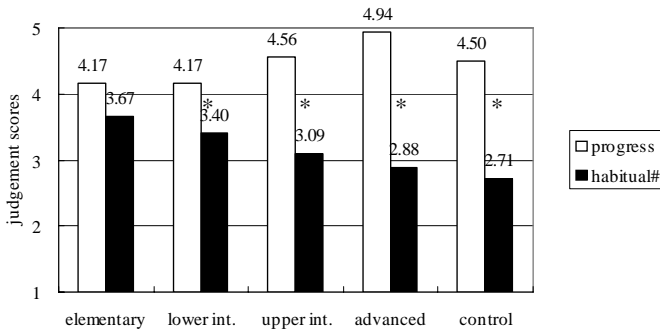

Figure 1. Mean ratings of the *–ing* form with activities (the present tense)

The analyses of simple simple main effect of Context indicated that the elementary level learners did not distinguish appropriate and inappropriate contexts with the activities ($F(1,144)=1.29$, $p=.26$), with the accomplishments ($F(1,144)=0.47$, $p=.50$) and the achievements ($F(1,144)=0.12$, $p=.73$). The lower intermediate level learners did distinguish the progressive contexts from the habitual contexts with the activities ($F(1,144)=4.58$, $p=.03$) and the accomplishments ($F(1,144)=12.3$, $p=.00$), but did not with the achievements ($F(1,144)=0$, $p=1$). Likewise, the upper intermediate learners were successful in distinguishing the two contexts with the activities ($F(1,144)=18.85$, $p=.00$) and the accomplishments ($F(1,144)=24.05$, $p=.00$), but not with the achievements ($F(1,144)=0.52$, $p=.47$). Considering that the Japanese *–te-i-* form of achievements expresses the resultative state rather than the event-in-progress meaning, the intermediate level learners might treat *–ing* as *–te*. That is because this misanalysis of the target form possibly led them to wrongly reject the event-in-progress meaning of the *–ing* form of the

achievements. Finally, the advanced learners distinguished these two contexts with every predicate type: with the activities ($F(1,144)=19.73$, $p=.00$), with the accomplishments ($F(1,144)=27.15$, $p=.00$) and with the achievements ($F(1,144)=28.04$, $p=.00$). This suggests that they acquired the target-like interpretation without being influenced by the predicate types. Therefore, we can say that the advanced learners acquired the uninterpretable feature on v and the strong uninterpretable feature on Prog.
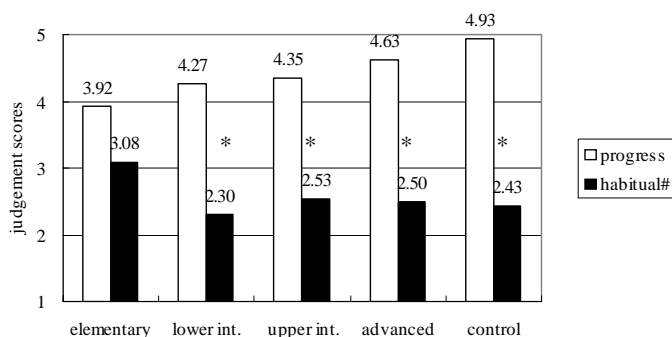
Figure 2. Mean ratings of the –*ing* form with accomplishments (the present tense)
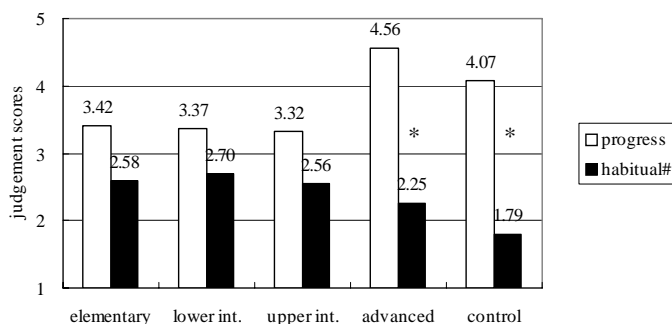
Figure 3. Mean ratings of the –*ing* form with achievements (the present tense)

4.4.2. L2 Japanese

First, we consider the results of the interpretation of the –*ru/ta* form. These forms are appropriate in habitual contexts while they are inappropriate in event-in-progress contexts. Table 7 presents the examples of the test items with the –*ru/ta* form. The appropriateness of the sentences in bold was rated in the task.

Table 7. The examples of the test items with the –*ru/ta* form

Activity	Accomplishment	Achievement
Habitual (appropriate)	*Habitual (appropriate)*	*Habitual (appropriate)*
Bob is a big fan of old films. Whenever he is free, **he watch-*ru* old films on DVD**.	Satti is a film director in India. She is very busy because ever year **she shoot-*ru* twenty films**.	Daniel wants to avoid rush hour. So every morning, **he leave-*ru* home at five**.
Event-in-progress (inappropriate)	*Event-in-progress (inappropriate)*	*Event-in-progress (inappropriate)*
I heard the sound of a piano in the next room. Maybe **my sister play-*ru* the piano in there**.	It is Ann's father's birthday today. Because her mother is away from home now, **she make-*ru* a cake alone**.	Mary is really worried about her dog. The dog was hit by a car this morning, and now **it die-*ru***.

The mixed design factorial ANOVA indicated that there were significant main effects of Context ($F(1,27)=127.54$, $p=.00$) and Tense ($F(1,27)=4.59$, $p=.04$), and significant interaction of Context x

Tense and Context x Predicate Type x Tense. No significant main effect of Proficiency was found (F(4,27)=2.38, p=.08). Furthermore, the analyses of simple simple main effect revealed that Context had significant effects on every predicate type and the both tense conditions. Thus the L2 Japanese learners at all the proficiency levels always distinguished appropriate and inappropriate contexts for the –*ru/ta* form. However, since the –*ru/ta* form and the English simple form have the habitual meaning in common, the L2 learners might analyse the –*ru/ta* form as the English simple form. Accordingly, we cannot conclude that the L2 learners acquired the target-like grammar.

Next, the interpretation of the –*te-i-* form is examined. The –*te-i-* form of activities and accomplishments are appropriate in event-in-progress contexts while the form of achievements is not because the –*te-i-* form of achievements expresses the resultative state. Moreover, the –*te-i-* form allows habitual interpretation with every predicate type. Table 8 gives the examples of the test items with the –*te-i-* form. The cells with the headings in bold indicate that there is a difference in interpretations between the apparently corresponding forms in English and Japanese: –*ing* and –*te-i*.

Table 8. The examples of the test items with the –*te-i-* form

Activity	Accomplishment	Achievement
Event-in-progress (appropriate) I heard the sound of a piano in the next room. Maybe **my sister play-*te-i-ru* the piano in there**.	*Event-in-progress (appropriate)* It is Ann's father's birthday today. Because her mother is away from home now, **she make-*te-i-ru* a cake alone**.	***Event-in-progress (inappropriate)*** Mary is really worried about her dog. The dog was hit by a car this morning, and now **it die-*te-i-ru***.
Habitual (appropriate) Bob is a big fan of old films. Whenever he is free, **he watch-*te-i-ru* old films on DVD**.	***Habitual (appropriate)*** Satti is a film director in India. She is very busy because ever year **she shoot-*te-i-ru* twenty films**.	***Habitual (appropriate)*** Daniel wants to avoid rush hour. So every morning, **he leave-*te-i-ru* home at five**.

Figures 4 through 6 show the mean scores of the judgment for the activities, the accomplishments, and the achievements, respectively. The mixed design factorial ANOVA showed that the main effect of Predicate Type (F(2,54)=47.39, p=.00) and Tense (F(1,27)=7.45, p=.01) were significant. The significant interactions of Proficiency x Context, Proficiency x Tense, Context x Predicate Type, Proficiency x Context x Predicate Type, Proficiency x Context x Tense, and Context x Predicate Type x Tense) were found. The analyses of simple simple main effect revealed that there were no effects of Context on activities for the present tense (F(1,162)=0.97, p=.33) and for the past tense (F(1,162)=0.28, p=.63). This means that the L2 learners' judgments were not different between the event-in-progress context and the habitual context with respect to the activities. Recall that the –*te-i-* form of activities expresses both the event-in-progress meaning and the habitual meaning. Hence, it is assumed that the learners interpreted the –*te-i-* form of the activities in the target-like way.
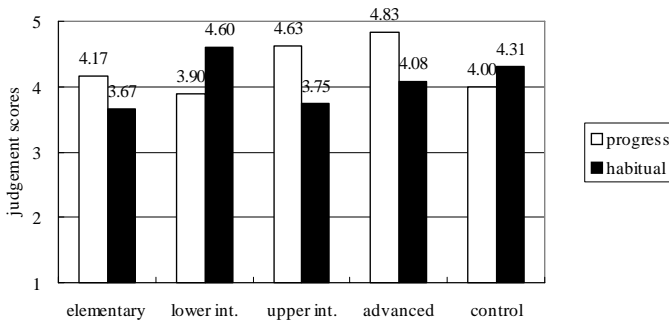

Figure 4. Mean ratings of the –*te-i-* form with activities (the present tense)

Unlike the results of the activities, significant effects of Context were found on the accomplishments for the elementary (F(1,81)=5.00, p=.03), the upper intermediate (F(1,81)=9.90, p=.00) and the advanced level learners (F(1,81)=8.02, p=.01). It follows that these learners tended to

wrongly reject the habitual meaning of the –te-i- form.

Now let us turn to the results of the achievements. Recall that the –te-i- form of achievements expresses the resultative state instead of the event-in-progress meaning. Thus unlike activities and accomplishments, achievements with –te-i- are allowed only in habitual contexts in the task, so that the two testing contexts should be distinguished in the ratings. The simple simple main effect of Context was significant for the upper intermediate ($F(1,81)=11.97$, $p=.00$) and the advanced level learners ($F(1,81)=5.32$, $p=.02$). Therefore, they learned that the –te-i- form of the achievements does not allow the event-in-progress meaning. Contrastively, the effect of Context was marginally significant for the lower intermediate level learners ($F(1,81)=3.10$, $p=.08$), and non-significant for the elementary level learners ($F(1,81)=0.12$, $p=.73$), suggesting that these less proficient learners did not acquire the target-like interpretation.
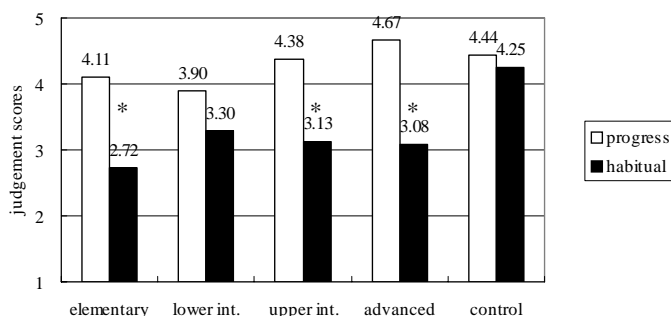

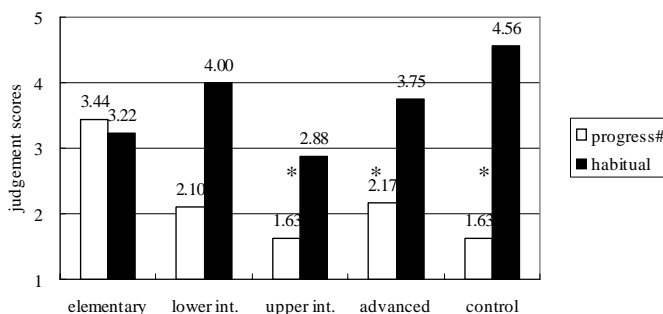Figure 5. Mean ratings of the –te-i- form with accomplishments (the present tense)

Figure 6. Mean ratings of the –te-i- form with achievements (the present tense)

To sum up, the advanced and the upper intermediate learners correctly rejected the event-in-progress meanings of the –te-i- form of achievements whereas they correctly accepted that meaning for the activities and the accomplishments. Considering that their interpretations reflected the inherent aspectual properties of predicates, we can assume that they did not utilise the T-vP configuration anymore. Concerning the habitual interpretation, all but the lower intermediate level learners wrongly distinguished the event-in-progress context from the habitual context with regard to the accomplishments. This indicates that the habitual meaning of –te-i- was not thoroughly learned even by the advanced level learners, and they seemed to regard the –te-i- form as the –ing form.

5. Discussion and Conclusion

The results of the acceptability judgment on the aspectual interpretation revealed that the L2 English learners acquired the habitual interpretation of the simple form; at the same time, the L2

Japanese learners acquired the habitual meaning of the *–ru/ta* form. Since the form-meaning associations are apparently identical in the both languages, however, the L2 learners may have transferred their L1 interpretation to the L2 interpretation. That is, the results concerning the simple form and the *–ru/ta* form did not conclude that the uninterpretable features which are absent in the L1 are acquirable.

In contrast, the interpretations of the *–ing* form and the *–te-i-* form are largely different although there are some overlaps. Tables 9 and 10 summarise what interpretations were supposedly assigned to the *–ing* form and the *–te-i-* form by the L2 English learners and by the L2 Japanese learners, respectively.

Table 9. Meanings supposedly assigned to L2 English *–ing*

	Activity	Accomplishment	Achievement
Elementary	-	-	-
Lower intermediate	Prog	Prog	-
Upper intermediate	Prog	Prog	-
Advanced	Prog	Prog	Prog
Control (English)	Prog	Prog	Prog

Note. Prog = the event-in-progressive meaning

Table 10. Meanings supposedly assigned to L2 Japanese *–te-i-*

	Activity	Accomplishment	Achievement
Elementary	Prog / Hab	Prog / -	Prog/ Hab
Lower intermediate	Prog / Hab	Prog/Hab	Prog/ Hab
Upper intermediate	Prog / Hab	Prog / -	Hab
Advanced	Prog / Hab	Prog / -	Hab
Control (Japanese)	Prog / Hab	Prog/Hab	Hab

Note. Prog = the event-in-progressive meaning, Hab = the habitual meaning

In the L2 English acquisition, the lower and the upper intermediate level learners only failed to assign the correct meaning to the *–ing* form of the achievements. This performance is assumed to be due to the L1 transfer because the *–te-i-* form, which appears to be equivalent to the *–ing* form, expresses the resultative meaning when it attaches to achievements while it expresses the event-in-progressive meaning when it attaches to activities and accomplishments. Yet, the advanced learners were successful in assigning the event-in-progress meaning to the *–ing* form with all the predicate types. From these findings, it seems reasonable to conclude that the L2 learners could acquire the uninterpretable features on *v* and *Prog* although they had not accessed these features in their L1. Therefore, the Interpretability Hypothesis was not supported.

In the L2 Japanese acquisition, the English speaking learners of Japanese successfully assigned the event-in-progress meaning to the activities and the accomplishments. Moreover, the upper intermediate and advanced level learners correctly rejected the event-in-progress meaning of the achievements. However, even the advanced learners wrongly rejected the habitual meaning of the accomplishments. It follows from these findings that the learners had difficulties in acquiring the aspectual interpretations in the L2 Japanese although they do not need to learn uninterpretable features which are absent in their L1.

In conclusion, the feature interpretability does not explain the second language acquisition of semantic consequences of functional categories and features in the domain of aspect. We therefore need to find a way of explaining the reasons for the non-target-like aspectual interpretations apart from the feature interpretability.

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