

Examining Japanese EFL Learners' Sensitivity to Unaccusative Verbs through Animation-based Acceptability Judgment and Composition*

Kazuharu Owada
Ritsumeikan University

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There are some English verbs that can be used both intransitively and transitively. Verbs such as *break*, *close*, and *melt* can appear in intransitive active, transitive active, and passive constructions. Although native English speakers know in what kind of context a target verb is used in a certain construction, previous studies have shown that EFL learners, including Japanese learners of English (JLEs), face difficulties in choosing the appropriate construction of these verb types. The purpose of this paper is two-fold. First, I examined JLEs' sensitivity to the transitivity of such English verbs by using an animation-based acceptability judgment test. This examination was in comparison with some native English speakers (NESs). Second, I investigated which construction of such verbs JLEs tend to use in an animation-based composition test. The results of this study suggest the following: (1) In the animation-based acceptability judgment test, JLEs accepted the passive more than the NESs did in some contexts with the exception of *fall*, and (2) in the animation-based composition test, JLEs preferred to use the intransitive of *fall* and the transitive of *drop*.

Keywords: unaccusative verbs, transitivity, animation-based judgment, animation-based composition, Japanese learners of English

1 Introduction

Intransitive verbs can be divided into two classes: unergative verbs (e.g., *swim*, *laugh*) and unaccusative verbs (e.g., *melt*, *fall*). The former presents an underlying external argument, which is assigned by the semantic role of an Agent, whereas the latter has an underlying direct internal argument, which is assigned by the semantic role of a Theme or Patient (e.g., Perlmutter (1978); Levin & Rappaport Hovav, 1995). Japanese learners of English (JLEs) tend to overpassivize non-alternating unaccusative verbs (e.g., **An accident was happened*), even though they do not encounter such forms in English input. They

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also tend to prefer the passive of alternating unaccusative verb (e.g., *The glass was broken* rather than *The glass broke*) in contexts where the intransitive is called for. Some researchers have proposed some UG-based accounts for this phenomenon (e.g., Hirakawa, 1995, 1997, 2003; Oshita, 1997, 2000; Zobl, 1989).

Regarding JLEs' acquisition of unaccusative verb, previous research has mixed results of which type of unaccusatives, namely, alternating or non-alternating, is difficult to acquire. Some studies have shown that JLEs face difficulty with the former (e.g., Hirakawa, 2003), whereas some have suggested that the latter is more difficult (e.g., Shomura, 1996). Since verbs and elicitation methods used in previous research differ from study to study, conclusive results have yet to be obtained (see Yamakawa, 2008 for a review of previous studies).

As for the methods used in previous studies, grammaticality judgment tasks have been widely used. It is usually the case that JLEs are instructed to judge whether the forms are intransitives, transitives, passives, and resultatives of unaccusative verbs. In this study, three grammatical judgment tasks used in previous studies are presented. As a first example, Hirakawa (2003) used elicitation production tasks and grammatical judgment tasks. In one of her grammatical judgement tasks, her participants were asked to judge each form of a target verb on a scale of -2 (completely unacceptable) to +2 (completely acceptable) after reading some contextual sentences. One example is given below:

It was a hot day so John and his friend decided to buy ice cream. John went to buy ice cream while his friend was making a phone call. When John came back with two ice cream cones, his friend was still on the phone. While John ate his ice cream, _____ .

- the other one was melted by the sun
- the other one melted
- the sun melted the other one
- the other one was melted

(Hirakawa, 2003, p. 282)

Second, Kondo (2005), replicating Ju's (2000) grammatical judgment task, used a forced-choice task, where subjects were asked to choose either the intransitive or passive form of the target verb. In this task, the intransitive form of both types of unaccusatives was counted as a correct answer. She provided two contexts, that is, an externally caused one (which implies a conceptualizable agent) and internally caused one (which implies no such agent) for each alternating and non-alternating unaccusative verb. One example for *close* in an externally caused context is shown below.

I pushed the door. The door (closed/was closed) by itself.

(Kondo, 2005, p. 144)

Third, Sato (2013), who highlighted the difficulty of providing contextual information given in sentence forms, employed the use of one hand-written picture for each sentence containing a target verb. For instance, she used one picture depicting a melting snowman for a sentence that includes a target unaccusative verb (The snowman melted). The sentence is to be judged on a five-point scale from -2 (not correct) to 2 (correct).

Having reviewed three examples, Sato (2013) seemed to have improved on the first and second grammatical judgment tasks by providing one picture in addition to a target sentence. However, the use of one picture would not provide sufficient context for the participants. Therefore, in order to address this problem, this study was designed to use animation for both animation-based acceptability judgment test and a composition test.

2 The Present Study

The present study comprised two parts: Study 1 and Study 2. The research questions in each study are presented as follows:

RQ1: Which constructions of verbs (i.e., *melt*, *drop*, or *fall*) will JLEs prefer in an animation-based acceptability judgment test, compared with native English speakers (NESs)? (Study 1)

RQ2: Which constructions of verbs (i.e., *melt*, *drop*, or *fall*) will JLEs prefer in an animation-based composition test? (Study 2)

2.1 Study 1

2.1.1 Participants and method

The exposition below describes the participants and method employed in Study 1.

Participants

The study participants comprised 57 first- and second-year English majors at a Japanese private university. The mean age was 19.2 ($SD = 1.02$; range: 18 to 20). There were 30 males and 27 females. They all had taken an in-house online listening and reading test called WeTEC. Their average score was 662.18 out of 1,000 points ($SD = 74.01$). According to the guidebook provided by the university, this average score corresponds to 610 to 729 for TOEIC and 64-79 for TOEFL-iBT.² Therefore, the participants' English proficiency level can be considered to be the same as a B1 level of Common European Framework of Reference for Languages (CEFR).³ Four native English speakers (NESs) participated in this study as a control group.

² See https://www.w-as.jp/gogaku/data/2017/17gte_guide_qtr.pdf for details.

³ See http://4skills.jp/qualification/comparison_cefr.html for more information.

Method

Unlike the conventional grammatical and acceptability judgment tests, an acceptability judgment test with animation movies was adopted to elicit the data. The participants were given the test sheet and asked to judge each of the test sentences on a 5-point Likert-scale (1 = *not natural* to 5 = *natural*) after watching an animation movie, with each context scene lasting about 20 seconds. They had to judge 22 animation context scenes that included 6 verbs. The verbs were presented in two to four animation context scenes. This experiment was conducted entirely as part of the regular English composition classes in a computer room setting. It took about less than 40 minutes to complete the whole test, excluding a 10-minute break in the middle. All the participants filled in the consent form before they participated. Here, the results of the 8 animation context scenes with 3 verbs are discussed.

One test item in the test sheet included one intransitive, one transitive, and one passive constructions of a target verb and one or two distractors, along with one or two introductory sentences. Although the order of the context scenes of the same target verb was not counterbalanced, the same target verbs did not appear consecutively on the test in order to minimize the unduly influence from each context scene. The following is an example of a test item for *melt* in one context scene. Here, the extracted still pictures from the animation movie are shown instead of the whole animation movie.

[Animation for *melt* (3)]



[After watching the animation, please rate each possible reply, with 5 being natural and 1 being not natural.]

The girl bought an ice cream cone, but while she was watching the juggler,

_____.

1. her ice cream was melted.
not natural 1-----2-----3-----4-----5 natural
2. it was melted her ice cream.
not natural 1-----2-----3-----4-----5 natural

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3. the sun melted her ice cream
not natural 1-----2-----3-----4-----5 natural
4. she melted her ice cream.
not natural 1-----2-----3-----4-----5 natural
5. her ice cream melted.
not natural 1-----2-----3-----4-----5 natural

Figure 1. Test item for *melt* in one context scene

2.1.2 Target verbs used in Study 1

The three target verbs were selected from the ones used in previous research (e.g., Hirakawa, 2003; Oshita, 1997; Kondo, 2005; Sato, 2013). The target verbs used in this study were two alternating unaccusative verbs *melt* and *drop*, and one non-alternating unaccusative verb *fall*. Searches on *English Vocabulary Profile* for the three verbs indicates the following CEFR levels: *melt* for the intransitive and transitive falls under B2, *fall* meaning “move down” is A2, and *drop* for the intransitive and transitive is categorized as B1.³ This indicates that *melt* and *drop* may be considered to be difficult words. However, it can be argued that JLEs have exposure to these three target verbs by the time they enter university for the following two reasons.

First, these three verbs appear in junior high school authorized English textbooks used in Japan. Six series of them have been used in Japan since the 2016 school year, with one series consisting of three books for the first, second, and third year. The verb *melt* appeared in three series out of six (three tokens), *drop* in three series (three tokens), and *fall* in five series (five tokens), excluding other senses such as “fall asleep.”

Second, according to the *JACET8000* vocabulary list, the ranks for *melt*, *fall* and *drop* are 2135, 550, and 853, respectively. Since the ranking of up to 2188 is considered to be the *basic 2000 words*, these three verbs should be familiar to the Japanese university students.

The target verbs in this study included *melt* (four contexts), *drop* (two contexts), and *fall* (two contexts), as in Table 1. The extracted still pictures from animation movies are presented in Appendix.

³ See <http://www.englishprofile.org/wordlists> for English Vocabulary Profile.

Table 1. Target Verbs Used in Study 1

verb	context
<i>melt</i>	(1) A snowman melts in the sun. (2) A person melts the snowman. (3) An ice cream melts in the sun. (4) Ice in the lake melts in the sun.
<i>drop</i>	(1) A couple of books drop out of a bag without the owner noticing it. (2) A person drops the books in surprise.
<i>fall</i>	(1) A person falls down the stairs herself. (2) A person is pushed and falls down the stairs.

2.1.3 Results

The subsections below present the findings of the results for the verbs *melt*, *drop*, and *fall*.

Results for *melt*

The context for the verb *melt* (1) was shown in the scene where “a snowman melts in the sun” (see Appendix for the animation). The results for *melt* (1) indicate that JLEs responded in a similar way as the NESs did, although the rating by the former was a little lower than the latter, as in Figure 2.

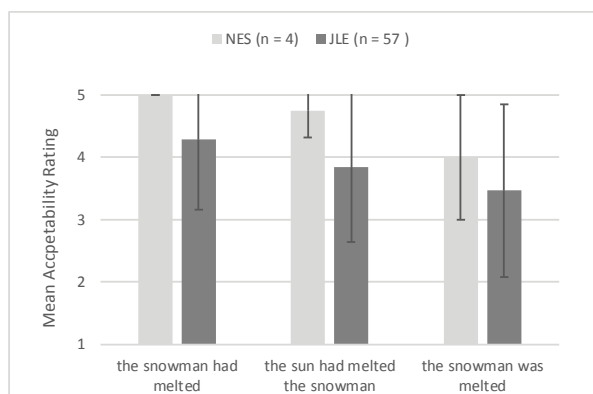


Figure 2. The results for *melt* (1)

Note: 1 (not natural), 5 (natural). The error bars indicate SD.

The context for the verb *melt* (2) was shown in a scene where “a person melts the snowman.” The results for *melt* (2) indicate that JLEs preferred the passive construction (*my snow man was melted*) two times more than the NESs did, as in Figure 3.

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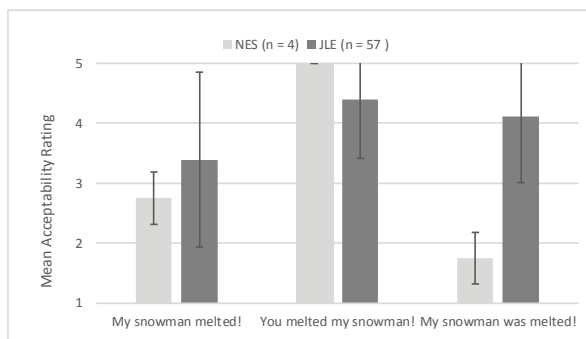


Figure 3. The results for *melt* (2)

Note: 1 (not natural), 5 (natural). The error bars indicate SD.

The context for the verb *melt* (3) was shown in a scene where “an ice cream melts in the sun” (see Appendix for the animation). The results for *melt* (3) indicate that JLEs preferred the passive construction (*her ice cream was melted*) much more than the NESs did, as in Figure 4. As for the intransitive construction (*her ice cream melted*) as well as one transitive construction (*the sun melted her ice cream*), JLEs showed preferences that were similar to the NESs. On the other hand, JLEs accepted the other transitive form (*she melted her ice cream*), which the NESs considered unnatural.

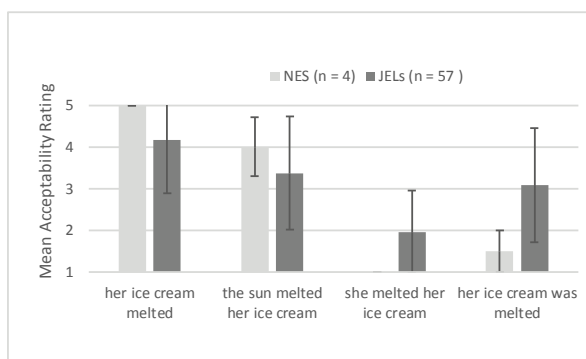


Figure 4. The results for *melt* (3)

Note: 1 (not natural), 5 (natural). The error bars indicate SD.

The context for the verb *melt* (4) was shown in a scene where the “ice in the lake melts in the sun” (see Appendix for the animation). The results for *melt* (4) indicate that JLEs' preferences were similar to the NESs regarding the intransitive (*the ice melted*) and the passive (*the ice was melted*) constructions. However, JLEs accepted the transitive form (*the lake melted*

her ice cream), which the NESs rejected as unnatural.

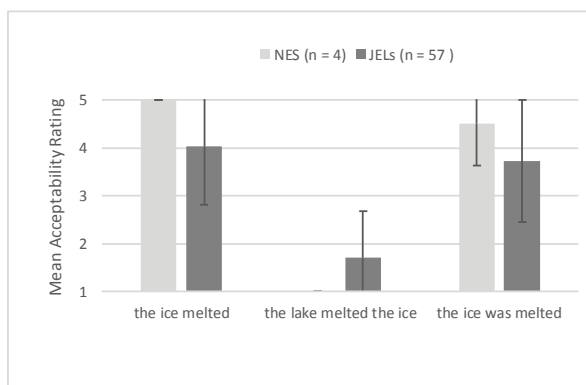


Figure 5. The results for melt (4)
 Note: 1 (not natural), 5 (natural). The error bars indicate SD.

Results for drop

The context for the verb *drop* (1) was shown in a scene where “a couple of books drop out of a bag without the owner noticing it” (see Appendix for the animation). The results for *drop* (1) indicate that JLEs accepted the passive (*two books were dropped out of her bag*) twice as much as the NESs did. Other than this, JLEs responded quite similarly like the NESs, although at a lower rate.

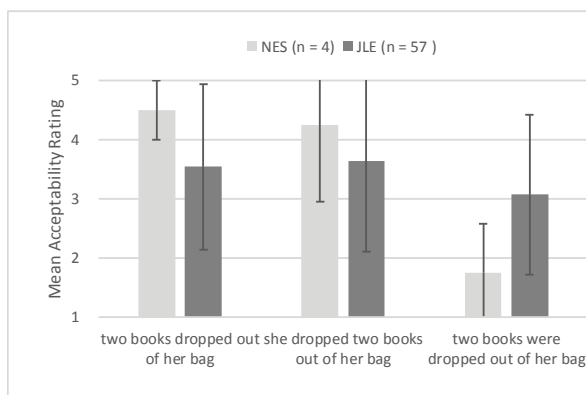


Figure 6. The results for drop (1)
 Note: 1 (not natural), 5 (natural). The error bars indicate SD.

The context for the verb *drop* (2) was shown in a scene where “a person drops the books in surprise” (see Appendix for the animation). The results for *drop* (2) show that JLEs and NESs accepted the intransitive form

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(*the books dropped on the floor*) at the same rate of 2.75 ($SD = 1.48$). JLEs preferred the passive construction (*the books were dropped on the floor*) more than did the NESs.

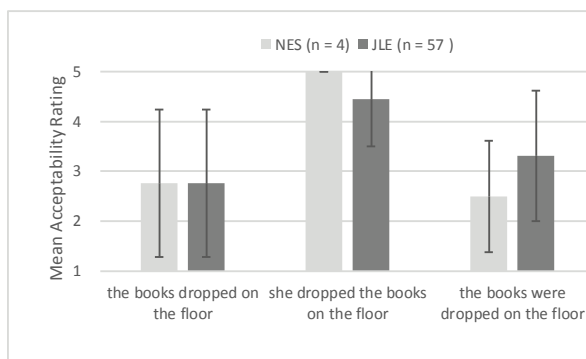


Figure 7. The results for *drop* (2)
 Note: 1 (not natural), 5 (natural). The error bars indicate SD.

Results for *fall*

The context for the verb *fall* (1) was shown in a scene where “a person falls down the stairs herself” (see Appendix for the animation). The results for *fall* (1) indicate that JLEs and NESs showed quite similar preferences for the intransitive construction (*she fell down all the way to the bottom*). However, JLEs accepted the ungrammatical transitive (**the stairs fell her down all the way to the bottom*) and the passive (**she was fallen down all the way to the bottom*) forms of *fall* at a rate of 1.54 ($SD = 0.78$) and 2.36 ($SD = 1.16$), respectively.

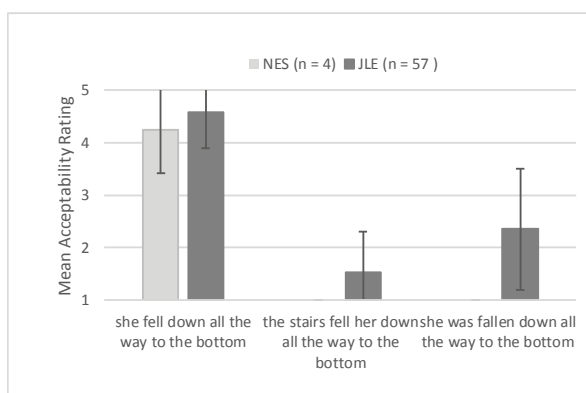


Figure 8. The results for *fall* (1)
 Note: 1 (not natural), 5 (natural). The error bars indicate SD.

The context for the verb *fall* (2) was shown in a scene where “a person is pushed and falls down the stairs” (see Appendix for the animation). Results for *fall* (2) indicate that JLEs and NESs showed similar preferences for the intransitive form (*she fell down all the way to the bottom*). On the other hand, JLEs accepted the ungrammatical transitive (*the man fell her down all the way to the bottom*) and the passive (**she was fallen down all the way to the bottom*) constructions of *fall* at a higher rate of 3.16 ($SD = 1.44$) and 3.64 ($SD = 1.27$), respectively, compared with both forms in the context of *fall* (1). This difference may be attributable to the so-called external causation involving the man pushing the girl in the context of *fall* (2) (see Ju, 2000; Kondo, 2005 for further details on the example).

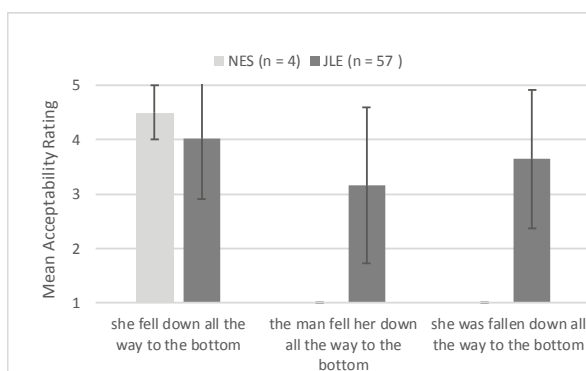


Figure 9. The results for *fall* (2)

Note: 1 (not natural), 5 (natural). The error bars indicate *SD*.

2.1.4 Discussion

The first research question was the following: Which constructions of verbs (i.e., *melt*, *drop*, or *fall*) will JLEs prefer in an animation-based acceptability judgment test, compared with NESs? First, as for the alternating unaccusative verb *melt*, JLEs and NESs showed somewhat similar preferences for the intransitive form of *melt*, although the former preferred the passive much more in certain contexts. Second, concerning the alternating unaccusative verb *drop*, as in the case of *melt*, JLEs preferred the intransitive form just like NESs did, although the former chose the passive, which the latter rejected. Third, regarding non-alternating unaccusative verb *fall*, although JLEs and NESs showed similar preferences for the intransitive form, the former preferred the ungrammatical transitive and passive form much more than the latter.

2.2 Study 2

2.2.1 Participants and method

The exposition below describes the participants and method employed in Study 2.

Participants

The participants, who were different from Study 1, comprised 27 JLEs majoring in English as freshmen at the same Japanese university as in Study 1. The mean age was 19.0 ($SD = 0.48$; range: 18 to 20). There were 8 males and 19 females. They all had taken an in-house online listening and reading test called WeTEC score. Their average score was 705.81 out of 1,000 points ($SD = 83.43$). According to the guidebook provided by the university, this average score corresponds to 610 to 729 for TOEIC and 64-79 for TOEFL-iBT. Therefore, they were considered to be of the same level of English proficiency as those in Study 1, and were thus categorized as having a B1 level of CEFR. All the participants filled in the consent form before they participated.

Method

The participants were asked to describe a situation in writing via computer in a computer room setting during regular classroom time by using a target verb after watching the same animation used in Study 1. The test was conducted at a pace where all the participants had enough time to produce their composition. All the instructions followed a pattern, which stated that "After watching the animation, describe what happened. Use the verb (melt/drop/fall)." For example, one JLE's answer to the context of *fall* (2) was the following: *A woman was going down the stairs at the station. It was so crowded, and a man accidentally hit her. She fell from the stairs and hit her hip.* All the target verbs used, even if they contained minor errors such as subject-verb agreement, were categorized into "Intransitive," "Transitive," and "Passive." On the other hand, other verbs and no answers were categorized into "Others/NA."

2.2.2 Target verbs in Study 2

The target verbs were the same as in Table 1 in Study 1. That is, *melt* (four contexts), *drop* (two contexts), and *fall* (two contexts).

2.2.3 Results

The subsections below discuss the results for the verbs *melt*, *drop*, and *fall*.

Results for *melt*

In three out of four contexts, more than 50% of JLEs used the intransitive form of the verb *melt*. In the context of *melt* (2) where a person melts the

snowman by firing it, JLEs are equally split at 29.6% between the intransitive and transitive forms (e.g., *snowman melted completely* and *a boy melt a snowman*, respectively).

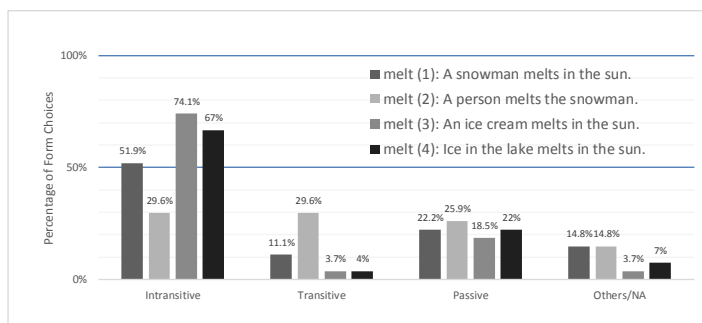


Figure 10. JLEs' choice of forms for *melt* in the composition test ($N = 27$)

Results for *drop*

In the context of *drop* (1) JLEs used the transitive construction (e.g., *she dropped her two books*) two times more than the intransitive form (e.g., *her books dropped out of her bag*). In the context of *drop* (2) more than 80% of JLEs chose the transitive form (e.g., *she dropped all the books she had*).

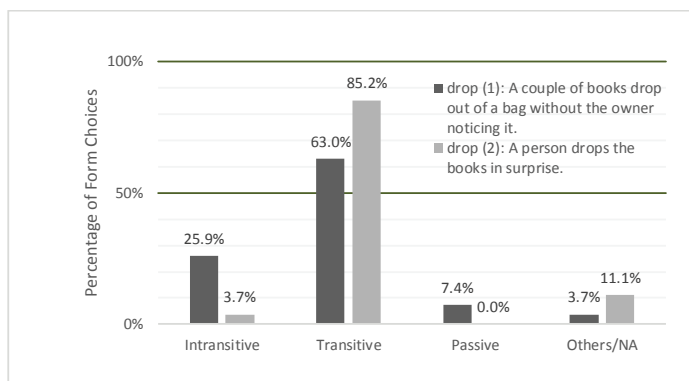


Figure 11. JLEs' choice of forms for *drop* in the composition test ($N = 27$)

Results for *fall*

In the context of *fall* (2) where the external force is involved, a majority of JLEs preferred the intransitive (e.g., *she fell down the stairs*) a little more than in the context of *fall* (1) where the person falls herself (e.g., *she fell down by mistake*). One out of 27 participants (3.7%) used the ungrammatical passive form in both contexts, and two participants (7.4%) used the

ungrammatical transitive form in the context of *fall* (2).

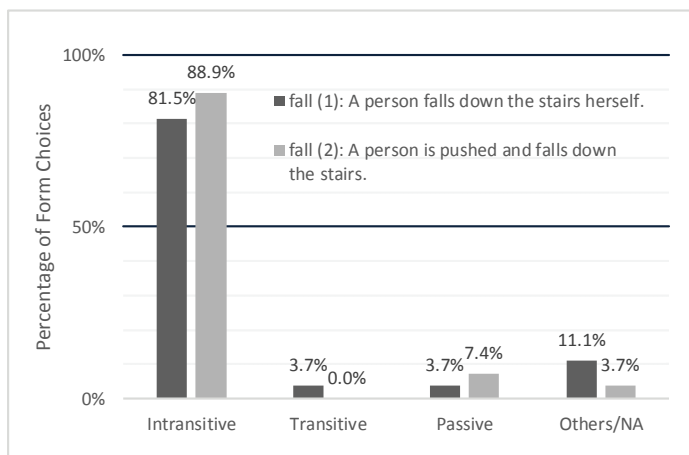


Figure 12. JLEs' choice of forms for *fall* in the composition test ($N = 27$)

2.2.4 Discussion

The second research question was the following: Which constructions of verbs (i.e., *melt*, *drop*, or *fall*) will JLEs prefer in an animation-based composition test? Three findings can be drawn from the results of all the three target verbs. First, more than 50% of the JLEs preferred the intransitive form of *melt* in three out of four contexts. Second, more than 60% preferred the transitive form of *drop* in the two contexts. Third, more than 80% preferred the intransitive form of the non-alternating unaccusative *fall* in the two contexts, although a small percentage of them accepted the ungrammatical transitive and passive forms.

3 Conclusions and Implications

Regarding the first research question, this study suggests that JLEs and NESs showed similar sensitivity to the transitivity of the target verbs, and that JLEs accepted the passive more than the NESs did in some contexts, with the exception of *fall*. As for the second research question, this study indicates that JLEs preferred the intransitive of *fall* and the transitive of *drop* in the composition test.

Interestingly, there were very few instances of ungrammatical transitive and passive forms of *fall* in the composition test. In other words, given that the participants in both studies had almost the same English proficiency level, it can be argued that JLEs responded quite differently in the composition test than in the acceptability judgment test.

As one implication from this study, the very fact that JLEs, more

specifically, English majors with high English proficiency as in this study, have difficulty with seemingly simple basic verbs suggests that explicit teaching of how to use unaccusative verbs correctly might be needed at least from the senior high school level from both syntactic and discourse perspectives (e.g., Can, 2009; Kwak, 2003). One effective way to implement this explicit teaching will be to incorporate the use of animation, such as the one used in this study, into the grammar teaching so as to provide students with vivid contexts of where these unaccusative verbs are used.

As a final note, there remain some limitations to this study. First, more participants of various English proficiency levels along with more native English speakers as controls are definitely needed to elucidate the overall picture of JLEs. Second, further studies dealing with more verbs and context scenes will lead to a deeper understanding of how JLEs conceptualize these types of verbs. Third, elicitation methods other than the acceptability judgment and composition tests, such as interviews, may shed more light on why JLEs responded the way they did in this study as well as how their L1 interference affected their responses.

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Appendix
Screenshots of the Animation Used in Study 1 and Study 2

melt (1): A snowman melts in the sun.



melt (2) A person melts the snowman.



melt (3): An ice cream melts in the sun.



melt (4): Ice in the lake melts in the sun.



drop (1): A couple of books drop out of a bag without the owner noticing it.



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drop (2): A person drops the books in surprise.



fall (1): A person falls down the stairs herself.



fall (2): A person is pushed and falls down the stairs.



Kazuharu Owada
Ritsumeikan University
1-1-1 Noji-higashi, Kusatsu Shiga 525-8577 JAPAN
E-mail: owada@fc.ritsumei.ac.jp

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