Acquisition of the Japanese Object Case Particle *Wo* by Adult Hindi Speakers: Testing the Transitivity Scale of Two-Place Predicates

Anubhuti Chauhan[*]

The University of Tsukuba, 1-1-1 Tennodai, Tsukuba Ibaraki, Japan.

Abstract

This paper examines the explanatory value of the transitivity scale of t*wo*-place predicates proposed by Tsunoda (1981, 1985, 1991) as applied to the ease or difficulty of the acquisition of the Japanese object case particle *wo* by Hindi speaking learners of Japanese as a foreign language. Tsunoda notes that predicates can be ranked cross-linguistically in the order of decreasing transitivity into the following types – Direct effect >> Perception >> Pursuit >> Knowledge >> Feeling >> Relation. The transitivity scale predicts that learners are more likely to analyze predicates highest in the hierarchy as transitive, and therefore mark the direct object NP with *wo*. Inversely, predicates lower in the hierarchy are more likely to be analyzed as intransitive, and therefore be marked by case particles other than *wo*. Acquisition data from 52 college-age learners divided into three proficiency levels bears out the predication in the case of predicates belonging to the extreme ends of the transitivity scale (Direct effect – Feeling, Relation). However, the prediction does not hold true for the intermediate types, which are better explained by Malchukov's (2005) re-analyzed version of the transitivity scale. The results show that case particle selection is influenced by both predicate type as well as the case frame of individual verbs in the learner's mother tongue.

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Keywords: Case particle; Second language acquisition; Transitivity scale

INTRODUCTION

Learners of a second language have to acquire not only new vocabulary but also grammatical rules in order to organize individual lexical items into meaningful sentences. One such set of grammatical rules concerns surface case forms that encode the relationship between core arguments and predicates. Japanese, like most SOV (subject-object-verb) languages, uses case-marking on nouns to encode these relations. These case-markings are classified as 'case particles'.

1a. *Tarō ga Hanako ni hon wo age-ta.*
    Tarō-NOM Hanako-DAT book-ACC gave-TRN-PAST
    Taro gave the book to Hanako.
 b. *Tarō ga hashi-tta.*
    Tarō-NOM run-INTR-PAST
    Taro ran.

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* Corresponding author: Tel.: +818-035327547.
  E-mail addresses: anubhuti.chauhan@gmail.com [Chauhan, A.].

Example 1a is a ditransitive sentence where the subject (Taro) occurs in nominative case, the indirect object (Hanako) in dative case and the direct object (book) in accusative case. Example 1b is an intransitive sentence where the sole argument, the subject, occurs in nominative case. Though these may be considered as one of the primary functions attributed to case particles *ga ni* and *wo*, they are by no means the only usages. For example, *ga* is used as the object of 'like/want' constructions; *wo* is a location marker for paths; and *ni* has multiple semantic functions like location, purpose, possessor and result of change in state. In other words, Japanese case particles lack one-to-one correspondence between form (morphological case-marking) and function (grammatical roles), making it difficult for learners to master the usage of these grammatical items.

A considerable amount of research exists regarding difficulties faced by learners in acquiring Japanese case particles, both from the perspective of error analysis and second language acquisition. However, there are relatively few studies focusing on the case particle *wo* despite being reported as a frequent case particle error (Ikuda & Kubota, 1997; Mizutani, 1987; Sugimoto 1997; Sugimura, 2010; Yagi 1996). Though the methodology and target participants of these studies vary, they all reported that *wo* is frequently confused with *ga* and *ni*. Confusion between *ni* and *wo* is commonly observed in emotional predicates (e.g. love, fear) and certain action predicates (collide, influence) where the second argument is marked with *ni* (Imai, 2000; Su, 2007). Further, unlike errors that resolve with time and increased proficiency, these errors tend to fossilize and have been observed in advance learners as well. The following examples are taken from the Teramura Database of Learner Errors (1990) and the Dictionary of Misused Japanese (Ishikawa & Asayama, 2010).

2a. *Tabako wo suu koto **ga** yame-ta.*　　　　　　(×ga→✓*wo*)
　　cigarette-ACC smoke-nominalizer-NOM quit-TRN-PAST
　　I quit smoking.

b. *Kaze **wo** ryuukoosuru.*　　　　　　　　　　(×*wo*→✓ga)
　　flu-ACC spread-INTR-PRT
　　The flu is going around.

3a. *Soreha benkyoo **wo** eikyou shita.*　　　　　　(×*wo*→✓ni)
　　that-TOPIC studies-ACC influence-PAST
　　That impacted my studies.

b. *Kanojo no yuunoo **wo** kanshinshita.*　　　　　(×*wo*→✓ni)
　　..her-GENability-ACCadmire-PAST
　　I admired her ability.

Sentences 2a and 2b are errors related to transitive-intransitive verbs. In 2a, the learner failed to use *wo* to mark the object of a transitive verb, whereas in 2b, the learner mistakenly selected *wo* to mark the subject of an intransitive sentence. Sentences 3a and 3b are both examples where the second argument of the predicate was mistakenly marked with *wo*; indicating that the learner analyzed it as a transitive verb. These errors are often attributed to inconsistencies in how a verb is formally represented in the target language (Japanese) and the learner's mother tongue. In other words, what might be a typically transitive verb in one language may be coded as a two-argument or one-argument intransitive verb in the other. Besides such language-external factors, language-internal factors have also been indicated as probable sources of errors. The most prominent of these is the fact that case particle *ni* is used to mark the patient of predicates that are traditionally speaking not labelled as transitive verbs in Japanese.

Although previous studies give a comprehensive description of different error types commonly produced by learners, there is no one systematic explanation that accounts for all the above error types, or makes predication about the ease of learnability. The present study attempts to address these problems by taking a prototype approach to learning and testing the explanatory value of the verb-type hierarchy proposed by Tsunoda (1981, 1991). Tsunoda categorized two-place predicates into the following six semantic types on the basis of their degree of transitivity:

Direct effect >> Perception >> Pursuit >> Knowledge >> Feeling >> Relation

(break, hit)   (look, hear) (search, wait) (know, forget) (love, need) (have, possess)

It is called a hierarchy because the transitivity of the predicates decreases as we move down the scale. He further predicts a gradation in ease of learnability - predicates belonging to the higher category will be more readily identified as transitive verbs than those belonging to a lower category. In other words, learners will select the object case particle *wo* much more readily for Direct effect predicates than for Perception predicates. Inversely, they will be least likely to select *wo* for Relation predicates (Tsunoda, 1981, 1991).

LITERATURE REVIEW

In order to understand why learners fail to select *wo* to mark objects of certain transitive verbs, or select *wo* to mark second arguments of certain non-transitive verbs, it is necessarily to first take a look at the notion of transitivity. Section 2.1 presents a brief introduction to major studies on transitivity from a prototypical approach. Section 2.2 lays out the implications of these approaches for the current study.

2.1   Prototypical Approach to Transitivity

The seminal paper by Hopper and Thompson (1980) is widely acknowledged as the first study to apply a prototypical approach to the concept of transitivity. Though the term itself was never used, Hopper and Thompson argued that transitivity was a "global property of an entire clause", and that languages of the world encode transitivity through multiple features or "parameters". These parameters included properties of the predicate, such as kinesis, telicity, punctuality, affirmativity, and reality; properties of the subject such as potency and volitionality; and properties of the object, such as affectedness and definiteness. The transitivity of a clause is determined by the presence or absence of these features. In other words, a high transitivity clause will contain a greater number of these features as compared to a clause that is lower in transitivity.

A similar approach has been proposed by Tsunoda, who surveyed case-marking patterns of two-argument predicates and demonstrated that the variations in case-frame (valency) patterns can be explained through the effectiveness condition (EF-CON). The EF-CON is also a multi-factorial concept that consists of a number of semantic parameters; overlapping but not identical to those proposed by Hopper and Thompson (1980). The parameters include: impingement on the object where the object is completely/partially affected (*he killed her*) or attained (*he found it*), completion of the action (*broke* vs. *will break*) and resultativeness of the action (*shoot* vs. *shoot at*). The hierarchy predicts the distribution of transitive and intransitive verbs across individual languages. Predicates higher up the hierarchy conform to EF-CON while those lower down the hierarchy fail on one or several of the parameters. The verb-type hierarchy shows a scale of transitivity in terms of case-marking as well. The transitive case frames, ergative-absolutive (for ergative languages) and nominative-accusative (for accusative languages), occur in Direct effect, but as we go down the hierarchy, this case-frame is less likely to occur. Instead we come across non-transitive case frames like nominative-oblique, absolutive-oblique and/or intransitive frame(s).

Tsunoda (1991) makes two important observations regarding the concept of transitivity. Firstly, it is impossible to clearly divide verbs into transitive and intransitive. Transitivity of a verb is a gradable notion where prototypically transitive verbs contain all the features that constitute transitivity and a prototypically intransitive verb contains none. Secondly, transitivity comprises of both semantic as well as syntactic aspects, which need to be clearly distinguished. Syntactic aspects include voice, case, word order, agreement and aspect. However, it is the semantic aspects which are common to different individual languages. These semantic aspects are: 1) presence of two participants, 2) the subject directs the action towards the object, and 3) a change in state of the object as a result of the action (i.e. degree of affectedness). A prototypically transitive predicate would therefore be directed towards an object, which

undergoes a change as a consequence of the action performed on it. Predicates belonging to the Direct effect category are actions directed towards an object that may or may not undergo a complete or partial change (*cut* vs. *throw*). Perception predicates, on the other hand, do not undergo a visible change but are 'obtained' in an abstract sense, which is completely absent in case of Pursuit predicates like 'search'. Though there is no difference in the degree of affectedness in the remaining categories, we do observe a relative gradation in acceptability of a transitive case-frame pattern.

Tsunoda's research has been widely acknowledged as a significant contribution in the field of cross-linguistic study of case-frame patterns. However, as pointed out by Lehmann (1991) and Malchukov (2005), the verb-type hierarchy conflates several semantic dimensions. Semantic transitivity is composed of different properties: 1) agent-related (a prototypical transitive clause has a visible, volitional, controlling agent-causer which initiates the event), 2) patient-related (a prototypical transitive clause has a visible, salient, non-volitional, non-controlling patient-effect which undergoes change associated with the even), and 3) verb-related (a prototypical transitive clause has a compact, perfective, realis verb). A transitive prototype, therefore, contains the role properties of the core arguments as well as the predicate. However, Tsunoda's hierarchy does not reflect these distinctions. Furthermore, Malchukov (2005) points to the fact that the hierarchy is only evident at the two extremes and some of the intermediate categories are not strictly ordered. For example, Perception predicates in Diaru outrank Pursuit (the case frame of the former is ergative-absolutive; the latter allows a number of non-transitive patterns), and thus, conform to the hierarchy, but the reverse is true for Avar (Pursuit predicates can be either transitive or intransitive, whereas Perception predicates take a non-transitive pattern).

In order to address these issues, Malchukov (2005) proposes a reanalysis of Tsunoda's hierarchy by decomposing it into a two-dimensional verb type hierarchy: the categories in the upper sub-scale of the hierarchy reflect patient-related properties, and categories in the lower sub-scale reflect the agent-related properties.

The upper sub-scale is a hierarchy of decreasing patienthood. 'Effective action' refers to Direct effect predicates like 'kill' and 'break' where the action is resultative, and the object is directly affected. 'Contact' refers to Direct effect predicates like 'hit' or 'touch' where O is impinged on but remains unaltered. 'Pursuit' predicates are further down the hierarchy as the action is intended but not realized (*wait for*, *search*). Lower still are t*wo*-argument motion verbs like 'go'. The case-frame of upper categories (Effective action, Contact) and that of the lower categories (Pursuit, Motion) differ in that the former is Agent-Patent, and the latter is Agent-goal.

The lower sub-scale is a hierarchy of decreasing agency. The argument structures for these categories are more complex, in part because the differences are related to properties of agent as well as object. The case-frame of Feeling predicates is an Experience-Stimulus rather than Agent-Patient, and though Perception-Cognition predicates are often treated at par with Feeling, predicates intransitive patterns in this category are the exception rather than the rule. Another key point of departure is the placement of Tsunoda's Knowledge category. Malchukov notes that languages such as Daghestanian treat Perception (*see*) and Knowledge/Cognition predicates (*know*) as the same, and places 'Cognition' predicates in between Perception and Feeling. Figure 1 represents a semantic map of the two-dimensional hierarchy.
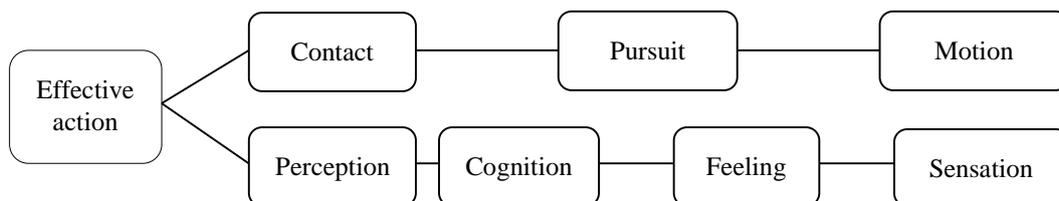
Figure 1. Two-dimensional verb type hierarchy

As can be seen from this map, Knowledge/Cognition is not treated as more similar to Feeling as suggested by Tsunoda, but placed adjacent to Perception. However, the map is consistent with Tsunoda's hierarchy in so far as Knowledge/Cognition predicates are placed in between Perception and Feeling.

2.2   Implications for the Current Study

Assuming that learners conform to a prototypical pattern of learning, two possibilities were tested – Either the acquisition pattern of *wo* reflects Tsunoda's verb-hierarchy or it reflects Malchukov's reanalyzed t*wo*-dimensional hierarchy, as presented below.

Tsunoda: Direct effect > Perception > Pursuit > Knowledge > Feeling > Relation

Malchukov: Direct effect (Effective action + contact) > Perception > Knowledge (cognition) > Pursuit > Feeling > Relation

The study targeted Hindi speaking learners of Japanese language; a group that has hitherto not been the focus of Japanese language acquisition studies. Hindi, like Japanese, is an SOV language that uses postpositions to mark case. The postposition that corresponds to *wo* is *ko* for animate or specific objects. In terms of Tsunoda's hierarchy, the transitive case frame (NOM – ACC) extends till Knowledge in Hindi, whereas Japanese is more permissive in extension of the transitivity pattern along all six semantic verb-types. This gives us an opportunity to examine mother tongue influence and account for it in a more systematic manner as we can hypothesise that Hindi speakers will be more reluctant to select *wo* for Feeling and Relation predicates. The aims of the paper can be summed up as follows:

1. To examine the explanatory value of the transitivity scale of t*wo*-place predicates proposed by Tsunoda (1981, 1991) as applied to the ease or difficulty of the acquisition of the Japanese object case particle *wo*.

2. To examine the role of mother tongue influence on the acquisition of object case particle *wo* by Hindi speaking learners of Japanese.

METHODOLOGY

3.1   Participants

Affiliation: A total of 56 graduate and undergraduate students (undergraduate students: 21 second year students, 17 third year students; graduate students: 12 fourth year students and 6 fifth year students) participated in the study. All participants were Japanese language majors enrolled in the five-year comprehensive program in the Department of Japanese Language and Culture at the Jawaharlal Nehru University, New Delhi.

Learning environment: Classroom teaching focused mainly on reading and writing skills, and grammar patterns were explicitly taught during the first and second year of the program. Explicit instruction on case particles was provided during the first year. Textbooks, such as *Nihongo* (Japanese Language) and *Bunka Nihongo* (Japanese Language and Culture), were used but often teachers prepared their own material. The mode of classroom instruction was mainly English. With the exception of two students, none had visited Japan or studied there.

First language (L1): All participants were asked to fill a questionnaire about their language profile (see Section 3.2). In a pluralistic and multilingual society like India, the concept of mother tongue tends to be associated with cultural identity instead of linguistic competence. For this reason, the participants' L1 was determined on the basis of what language they used and understood best. The results show that 52 of the total participants were L1 speakers of Hindi, 4 were foreign students from Korea and 1 was an L1 speaker

of Paite. The analysis presented below is based on the results of the 52 L1 speakers of Hindi.

3.2   Surveys

The study consisted of three surveys – 1) a survey on language background and Japanese language learning experience (face sheet), 2) Simple Proficiency Oriented Test (SPOT) for determining the proficiency level of participants, and 3) a fill-in-the-blank style grammar test for assessing knowledge of case particle use (grammar test).

Face sheet: All participants were asked to fill-in a survey questionnaire asking details about their Japanese language education background as well as their linguistic background. The former consisted of questions regarding the institutions they had studied Japanese in, the duration of their study there, experience of visiting Japan and information about their Japanese Language Proficiency Test (JLPT) levels. The latter constituted of questions on how many languages the participants knew, and the language they were most comfortable using.

SPOT: SPOT is a placement test developed by researchers at the University of Tsukuba in order to assess the learners' overall Japanese language ability (Kobayashi, Ford, & Yamamoto, 1996). It is also widely used in second language acquisition studies to group the participants on the basis of their proficiency. The test constitutes of 60-65 contextually unrelated sentences; each with a blank that has to be filled with one *hiragana* letter representing a grammatical item. The examinees are required to fill in the blanks while listen to an audio recording of the sentences at native speed within a time period of around 10 minutes. There are around ten versions of the test. Versions A and B were employed in the present study. SPOT-B targets learners who have undergone under 400 hours of classroom time, and SPOT-A targets learners who average between 400 to 800 hours of classroom instruction.

It may be argued that participants could have simply been grouped according to the academic year they belonged to. However, information from the participants' fact sheet show that a number of participants had studied Japanese in institutes other than the one they were currently affiliated to. Also, there were cases where participants belonging to the same academic year had cleared higher JLPT test levels, making it difficult to assess proficiency simply on the basis of academic year. An objective standard for measuring language proficiency was therefore required. The validity of using SPOT is supported by statistical analysis (results in section 4 below) as well.

Grammar test: The grammar test consisted of 52 fill-in the blank style questions which can be divided into the following three categories: 1) 26 questions where the case particle to be filled-in was a semantic object marked by *wo* or *ni*, 2) 16 questions concerning other usages of case particles *wo* and *ni*, and 3) 10 distracters involving case particles other than *wo* and *ni*.

A list of around 200 two-place predicates was created from the vocabulary list of the lowest (level four) to the second highest level (level two) of the old JLPT test. These were then grouped into Tsunoda's six semantic categories. Predicates used in the grammar test were selected from this list in order to ensure that errors related to case particle selection were not influenced by the participants' lack of vocabulary knowledge. Furthermore, translations of all vocabulary items as well as readings of the Chinese characters were also provided on the questionnaire itself.

Another factor taken into consideration when selecting predicates was the postposition of the corresponding Hindi predicate. The t*wo*-place predicates extracted from the old JLPT vocabulary list were translated into Hindi in order to find out the corresponding postpositions. The survey confirmed Jacobsen (1989)'s observation that languages often differ in how the arguments of predicates are organized. It was discovered that even within a specific sub-category where the same case particle was used in Japanese, different predicates used different postpositions in Hindi. The test questions tried to capture this diversity.

The selected predicates, along with the core arguments used in the test sentences are given in table 1.

Table 1. Test items of the grammar test.

Category		Test questions			
Effective Action	*wo*	*ringo wo kiru*[4] apple-ACC cut	*haha wo tetsudau*[3] mother-ACC help	-	-
	ni	*shisumonnikotaeru*[4] question-DAT answer	*shiainikatsu*[3] match-DAT win	*shikennigoukaku suru*[3] test-DAT pass	*shourainieikyou suru*[2] future-DAT influence
Perception		*hanashi wo kiku*[4] talk-ACC listen	*resutorawo mitsukeru*[3] restaurant-ACC find	-	-
Pursuit		ie *wo tazuneru*[3] house-ACC visit	hizashi *wo sakeru*[2] sunlight-ACC avoid	-	-
Knowledge		yarikata *wo kangaeru*[4] method-ACC think	imi *wo rikai suru*[2] meaning-ACC understand	-	-
Feeling	*wo*	*shippai wo warau*[3] mistake-ACC laugh	*kuni wo ai suru*[2] country-ACC love	*hi wo osoreru*[2] fire-ACC fear	*seikou wo utagau*[2] success-ACC doubt
	ni	*henjinikomaru*[4] reply-DAT *worry*	*seifunimanzoku suru*[2] government-DAT be satisfied	*suieiniakiru*[2] swimming-DAT lose interest	*tokainiakogareru*[2] city-DAT be enamored
Relation	*wo*	*hon wo motsu*[4] book-ACC have	*bitaminC wo fukumu*[2] vitamin C-ACC include	-	-
	ni	*hahaninite iru*[3] mother-DAT resemble	*repo-to nikawaru*[3] report-DAT swtich	-	-

* [verb[number](*kiru*[4])] indicates the vocabulary level as stipulated by the JLPT vocabulary list

3.3 Procedure

Participants were asked to fill-in the fact sheet followed by the two SPOT tests. The grammar test was conducted on the next day, though in some cases scheduling the test on a different date was problematic and so the grammar test had to be conducted on the same day with a fifteen-minute break between the SPOT and grammar test. No significant difference in performance was observed between participants who took both tests on the same date from those who took it on different dates. The time duration for the grammar test was set at one hour. Advanced learners generally took less than half that time to complete the test, but beginner level learners took longer to read and process the test sentences. Participants were instructed to fill-in the blanks with case particles *wo*, *ni*, *ga*, *kara*, *made*, *de* or *to*. Participants were not allowed to use dictionaries or any other material.

RESULT

Participants were grouped into three proficiency levels of high performers (16 participants), intermediate performers (18 participants) and low performers (18 participants) on the basis of SPOT results. Pearson *r* correlation was used to calculate whether there was a statistically significant relationship between the results of the SPOT test and the grammar test on one hand, and between the number of years spent learning Japanese and the grammar test result on the other. The analysis shows that even though there was a

positive correlation between both relationships, the correlation was much stronger in the case of the former with value of |*r*| at .718 vis-à-vis that of .640 in the case of the latter. Furthermore, there was a strong statistical significance between the three groups (divided on the basis of SPOT) at p<0.05 level and upon further scrutiny, we found a statistical significance between all three groups at the 0.05 level using Tukey's test for multiple comparisons.

Figure 2 depicts the results of the grammar test. Since the focus of the present paper is verb transitivity, we will only take the results of the six semantic categories into consideration.
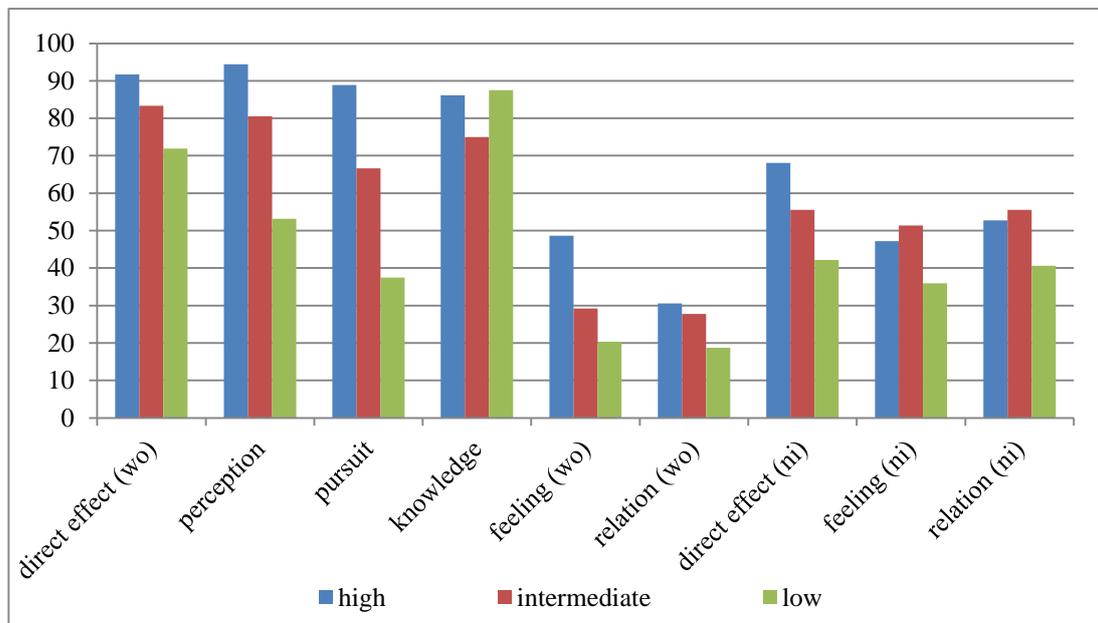
Figure 2. Grammar test results

As can be seen from Figure 2, the percentage of correct answers gradually increases as we advance from low-proficiency group to high-proficiency group in most categories. Assuming that the grammar test results reflect the acquisition level of learners, and the SPOT results indicate overall proficiency in Japanese language; we can say that the acquisition of case particle *wo* and overall proficiency have a positive correlation. However, this pattern was not observed for all the categories. Firstly, not only did categories towards the lower end of the transitivity scale like Relation (*wo*), Feeling (*ni*) and Relation (*ni*) averaged low scores, the fact that high-proficiency group averaged slightly lower than intermediate-group seems to indicate fossilization. Secondly, test scores for Knowledge were unexpectedly high in all three groups. This seems to indicate that predicates belonging to this category are successfully learnt in the early stages of acquisition. One possible reason for this could be that predicates like 'think' and 'understand' are frequently used in by learners (for production tasks like essays) and teachers (for classroom instruction) right from the beginner level.

Furthermore, it is also clear that learners were far more comfortable selecting *wo* for the categories at the upper end of the transitivity scale (Direct effect, Perception, Pursuit, Knowledge) than for those at the lower end of the scale (Feeling, Relationship). The effect of transitivity is also noticeable from the fact that the test scores for categories Feeling (*wo*) and Relation (*wo*) were much lower than Feeling (*ni*) and Relation (*ni*). Clearly, learners were more comfortable selecting a non-object marker for these categories. The reverse is true for Direct effect (*wo*, *ni*) as these predicates are semantically high transitivity predicates. In other *wo*rds, the grammar test results of the six categories seem to form a gradation that reflects the transitivity scale of predicates. A one way analysis of variance (ANOVA) was conducted to determine whether there were any significant differences between the means of the six categories. The results did not reveal a statistically significant difference (p<.05) between Direct effect (*ni*), Feeling (*ni*) and Relation (*ni*). However, statistical significance was observed for the six categories that use *wo*. Multiple comparisons

using Holm–Bonferroni method was used to find out where the significance lay. The results show that the means of Feeling (*wo*) and Relation (*wo*) were significantly different from the rest of the four categories.

As mentioned above, the selected case particle is an indicator of how learners perceive the transitivity of different verbs. It is therefore important to also pay attention to the choice of incorrect case particle. Table 2 presents the overall percentage of the different case particles selected in each category.

Table 2. Case particles selected by learners (aggregate result).

	wo	*ni*	*ga*	*kara*	*made*	*de*	*to*	#
Direct effect (*wo*)	*82.7%	**14.5%	2.8%	-	-	-	-	-
Perception	*75.9%	1.9%	**13.6%	-	1.9%	6.7%	-	-
Pursuit	*71.1%	**13.4%	1.9%	7.3%	4.8%	1.9%	-	1.9%
Knowledge	*82.6%	-	**11.5%	-	0.9%	-	1.9%	3.1%
Feeling (*wo*)	*33.2%	**28.4%	6.7%	6.7%	6.7%	17.3%	-	-
Relation (*wo*)	*25.9%	2.8%	**53.9%	-	-	16.5%	0.9%	-
Direct effect (ni)	**41.8%	*51.9%	0.9%	-	0.9%	1.9%	0.9%	1.7%
Feeling (ni)	7.7%	*44.7%	13.9%	3.7%	10.6%	**8.6%	-	0.8%
Relation (ni)	7.7%	*51.3%	12.5%	**23.4%	1.9%	1.9%	-	1.3%

* The percentage of correct answers; ** The most frequently selected incorrect case particle; # Unattempted questions or selection of expressions other than case particles

Selection results show that learners tend to confuse between accusative *wo* and dative *ni* in the Direct effect (*wo*, *ni*), Pursuit and Feeling (*wo*) categories; between accusative *wo* and nominative *ga* in Perception, Knowledge and Relation (*wo*) categories; and between dative *ni* and semantic case particle *de* in Feeling (*ni*) category. Errors made by learners in the high-proficiency group tended to concentrate on these error selections with very few deviations whereas learners in the intermediate and low-proficiency groups, though displayed a high propensity to make the same error choices, did select a greater variety of case particles. In other words, not only do advance learners make fewer case particles mistakes, but their error patterns narrow down and tend to homogenize.

DISCUSSION

As pointed out above, we can observe a gradation in the test scores with learners averaging higher scores as we move up the transitivity scale. This indicates that learners are sensitive to the predicates degree of transitivity when selecting case particles. However, the aggregate test scores (see Table 2) do not reflect the verb-type hierarchy as it stands. Arranging the categories according to the test scores, we get the following ranking order for categories that mark their object with *wo*: Direct effect (*wo*) [82.7%] > Knowledge [82.6%] & Perception [75.9%] > Pursuit [71.1%] > Feeling (*wo*) [33.2%] > Relation (*wo*) [25.9%]. This ranking order reflects Malchukov's hierarchy more closely than Tsunoda's hierarchy.

Another factor that supports Malchukov's hierarchy over Tsunoda's is the choice of erroneous case particles selected by learners. Malchukov reanalyzes Tsunoda's hierarchy into a two-dimensional structure where the categories organized in the upper sub-scale represent decreasing patienthood and those organized in the lower sub-scale represent decreasing agentivity. Decrease in patienthood of t*wo* place predicates in

Japanese often spells out with accusative *wo* being replaced by *ni*. Interestingly, the case particle most frequently selected instead of *wo* for the upper sub-scale categories like Direct effect (contact) and Pursuit was *ni*. On the other hand, the most frequent erroneous selection for the lower sub-scale categories of Perception and Knowledge was the nominative *ga*. This reflects the structure of 'like' verbs that mark both subject and the second argument with *ga*, and where the real subject is interpreted as an experiencer rather than an agent. The fact that Malchukov's hierarchy captures this distinction makes it better suited to represent the acquisition pattern of Japanese language learners.

With regards to mother tongue influence, we find that the intermediate and low-proficiency groups were more likely to fall back on their knowledge of Hindi when selecting case particles for the high transitivity categories than the high-proficiency group. For example, many such learners selected *ni* instead of *wo* for the Pursuit predicate 'avoid' (*sakeru*). This may be attributed to the fact that in Hindi, the second argument of 'avoid' (*bachna*) takes the semantic postposition *se* which may be roughly translated as *ni* in Japanese. This error-type was more or less absent in the high-proficiency group. Given that a substantial number of Hindi Pursuit predicates, like 'avoid' (*bachna*), do not take a transitive case frame, and that the test results rose from 37% (low proficiency group) to 88% (high proficiency group) indicates that errors found in the high transitivity categories resolve with time irrespective of the structure in their mother tongue. On the other hand, predicates found in the low transitivity categories did not show a similar improvement. Learners continued to rely on their mother tongue to determine the case frame of Feeling and Relation predicates. As a result, all three groups showed preference for semantic case particles *ni* and *de*, indicating that they interpreted the second argument of Feeling Predicates as cause or stimulus. Similarly, they selected *ga* for Relation predicates, which are often typical intransitive verbs in Hindi.

CONCLUSION

In summary, this paper examined the ease or difficulty of acquisition of case particle *wo* as predicted by Tsunoda's transitivity scale of t*wo*-place predicates. The grammar test results bear out the predication in the case of predicates belonging to the extreme ends of the transitivity scale, and ANOVA analysis revealed that the difference in the means of the test results was statistically significant. However, the predication did not hold true for intermediate categories, which reflected Malchukov's reanalyzed t*wo*-dimensional hierarchy. This hierarchy is also better suited to account for the erroneous selections made by the learners. The result also reflects the difference in the extension of the transitive pattern in Japanese and Hindi – Japanese is more permissive than Hindi as it assimilates both Feeling and Relation predicates.

From the perspective of language education, it is impossible to explicitly teach the case frame of each individual predicate. It therefore becomes important to distinguish between predicates whose case frames need not be explicitly taught in class from those that require special attention. The present study shows that learners seem to acquire the case frame of high transitivity predicates even in the absence of explicit instruction for individual verbs. However, differences in encoding transitivity between the mother tongue and target language may appear in the low transitivity categories. These need to be assimilated in the teaching material and instruction content.

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