

# Accuracy order of infinitive and gerund complements as used by Japanese senior high school students of EFL

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## ABSTRACT

This research attempted to investigate whether the theory of markedness would be valid or not. A total of 199 Japanese senior high school students of EFL (English as a Foreign Language) participated in this experiment. Two tests, i.e. a structured test and a grammaticality judgment test, were given to the subjects.

The results obtained from this research show that the theory of markedness was valid in that *to* infinitives, or unmarked structures, were easier to acquire than gerunds, or marked structures, and bare infinitives were the most difficult verb complement.

## 1. INTRODUCTION

Recently the theory of markedness has been the locus of research agenda in second language acquisition since Eckman (1977) proposed it. Linguistic notions of 'markedness' are usually defined in terms of complexity, relative infrequency of use or departure from something that is more basic, typical or canonical in a language (Larsen-Freeman and Long 1991 : 101). Within the Government-Binding theory outlined in Chomsky (1981), infinitives and tensed clauses are unmarked, since they have the same clausal structure and can appear with a lexical or null complementizer. In the following (1), the element '*for*' is the lexical complementizer. In (2) there exists a null complementizer, since the infinitive clause is not introduced by the element '*for*' :

- (1) It is necessary *for* John to do this job.

(2) It is necessary to do this job.

On the other hand, the gerund complement is marked, since it lacks the complementizer position entirely as illustrated in (3).

(3) John enjoyed playing tennis yesterday.

Furthermore, the notion of tense operator distinguishes infinitives from gerunds (Stowell 1982). Infinitives do not have a tense operator and the tense is unrealized with respect to the tense of the matrix in which it appears (Stowell 1982 : 562). Bolinger (1968) points out that infinitives very often express something "hypothetical, future, unfulfilled." On the contrary, the tense of gerund is determined externally by the semantics of the control verb in the matrix clause. Gerunds typically express something "real, vivid, fulfilled" (Bolinger 1968).

Butoyi (1977, as cited in Celce-Murcia and Larsen-Freeman 1983 : 433) established the following frequency order for English complement types, examining over 8,000 words of spoken English :

1. <i>That</i> clause	(46%)	I know (that) he left.
2. Infin. equi NP	(34%)	I want to leave.
3. Infin. + object	(11%)	I want him to leave.
4. Infin. with <i>to</i> deletion		I let him leave.
	(4%)	
5. Gerund equi NP	(3%)	I enjoy swimming.
6. Poss. + gerund	(2%)	I resent his leaving.

This result shows that infinitives are more frequent in spoken English than gerunds. The frequency of occurrence in English may have an influence on the acquisition order for native speakers and ESL (English as a Second Language) learners.

Evidence from first language acquisition research indicates that infinitives, or unmarked structures are learned before gerunds, or marked structures. Limber (1973, as cited in Mazurkewich 1988 : 130) reports that children between the ages of 1 ; 6 and 3 ; 0 years did not use any gerund complements, although they produced utterances that included bare infinitives and infinitive complements. Pinker (1984) re-examined Brown's (1973) data, stating that gerund complements did not appear until a full

year later than the point at which the *-ing* morpheme was supplied in obligatory contexts with 90% accuracy.

Second language acquisition data also support the prediction of unmarked and marked relationship. Anderson (1976, as cited in Celce-Murcia and Larsen-Freeman 1983 : 433) studied the accuracy order of English complements, based on the results of multiple-choice and translation tests, and found that infinitives were easier than gerunds to Spanish and Persian learners of ESL. Butoyi (1978) showed that Japanese and Persian ESL learners found infinitives easier than gerunds. Koike (1983) investigated utterances produced by three Japanese children living in America. He found that infinitive complements were used at a fairly early stage, 6 months after the children were immersed in the English language environment, and that gerund complements did not appear even after one year passed. Hence, regardless of first language, the accuracy order for infinitives and gerunds holds fixed.

Mazurkewich (1988) studied the Inuktitut (Eskimo) learners of ESL by giving a production test and an intuitive judgment test. Since the infinitive and gerund complement distinction found in English has no parallel structure in Inuktitut, the question of language transfer did not arise in her study. Her finding was that infinitives were mastered before gerunds, so that this result supports the theory of markedness.

In EFL contexts, there was only one research to test the theory of markedness in verb complements, to the best of my knowledge. Shirahata (1991) conducted a study of 110 Japanese university students of EFL. The results show that each group had a higher average accuracy percentage in infinitives than in gerunds : 88.5% vs. 71.1% for advanced group, 87.3% vs. 56.3% for intermediate group, 78.3% vs. 34.9% for beginner group).

## **2. PURPOSE OF THE STUDY**

In this research, I will investigate whether the theory of markedness will apply to Japanese senior high school students of EFL. The following hypothesis will be built :

The accuracy order in verb complement is  
bare infinitive > *to* infinitive > gerund.

[> : more accurate than]

Bare infinitive complements are the first items to master in verb complements, with *to* infinitive being the second and gerund the last.

First language acquisition research reveals the developmental sequence in acquiring verb complements (see Mazurkewich 1988 : 135).

Stage 1 : bare infinitive

Stage 2 : contracted infinitive

Stage 3 : *to* infinitive

Stage 4 : gerund

L1 (first language) children use bare infinitives first. At the next stage, constructions such as “I wanna” or “I’m gonna” occur frequently, because they use them as unanalyzed items and the element ‘*to*’ is not stressed nor salient. At Stage 3, children produce *to* infinitive complements when they perceptually notice ‘*to*.’ Finally, gerund complements are used.

Based on this L1 developmental sequence, it is hypothesized that bare infinitives are the easiest items to learn, *to* infinitives are the second easiest, and gerunds are the most difficult. This hypothesis also follows the results of Mazurkewick (1988) and Shirahata (1991) in that L2 learners learned infinitives before gerunds, as mentioned earlier.

### **3. RESEARCH METHOD**

#### **3.1 Subjects**

199 Japanese senior high school students of EFL participated in this experiment. They had studied English for four years only at instructional settings. Infinitives and gerunds were what they had already studied in class.

#### **3.2 Data collection and analysis**

Two tests were given independently to all the subjects : a structured test and a grammaticality judgment test (see Appendix). There was 5-minute intermission after Test I. Both the structured test and the grammaticality

judgment test were designed to collect data of receptive knowledge of infinitives and gerunds. The constructions investigated in this research are limited to complements which appear without a lexical subject.

[TEST I] structured test (5 minutes)

The structured test was assigned first, because the grammaticality judgment test may influence the result of this structured test. Included in this test were 4 verbs, *decide*, *need*, *promise*, and *want*, which obligatorily take only *to* infinitive complements ; 4 verbs, *finish*, *keep*, *mind*, and *enjoy*, which obligatorily take only gerunds ; and 3 verbs, *make*, *let*, and *have*, which obligatorily take only bare infinitives.

[TEST II] grammaticality judgment test (5 minutes)

The subjects were asked to give a grammaticality judgment of 11 sentences, of which 3 sentences were grammatically correct and 8 sentences were incorrect, and to correct the errors if any. The verbs used in this test were the same as those in TEST I.

The scoring criteria used did not count misspellings. In this research, the significant level of a statistical analysis was set at  $\alpha < .05$ .

#### 4. RESULTS

Hypothesis : The accuracy order in verb complement is  
bare infinitive > *to* infinitive > gerund.

In both the structured test and the grammaticality judgment test, four test items were assigned to *to* infinitives and gerunds, respectively. Three items were given to bare infinitives. Thus, the following numbers were the average of the four items in *to* infinitives and gerunds and the average of the three items in bare infinitives.

As shown in the following table, in the structured test 121 students (60.8%) out of 199 answered correctly to bare infinitives ; 165 students (82.9%) got the answers correct in *to* infinitives ; 145 students (72.9%) made correct answers to gerunds. The  $\chi^2$  test was employed in order to in-

investigate the differences among the three verb complements. The result shows that there was a statistically significant difference in the structured test ( $\chi^2 = 6.76$ ,  $df=2$ ,  $p < .05$ ;  $\chi^2_{critical} = 5.99147$ ).

In the grammaticality judgment test, 102 students (51.3%) of 199 responded correctly to bare infinitives; 165.5 students (83.2%) made correct judgments to *to* infinitives; 137.5 students (69.1%) got the answers correct in gerunds. The difference reached statistical significance ( $\chi^2 = 15.01$ ,  $df=2$ ,  $p < .001$ ). Consequently, the data reveal that the accuracy order in each test was :

*to* infinitive > gerund > bare infinitive

Therefore, the hypothesis was partially supported in both the structured test and the grammaticality judgment test in that *to* infinitives were easier to master than gerunds.

**TABLE :** Number of correct answers to 3 verb complements (n=199)

	bare infinitive	<i>to</i> infinitive	gerund
Structured test	121 (60.8%)	165 (82.9%)	145 (72.9%)
Grammaticality judgment test	102 (51.3%)	165.5 (83.2%)	137.5 (69.1%)

## 5. DISCUSSION

The following two noteworthy findings are evident in this research. First, it was found that *to* infinitives were easier to acquire than gerunds. The reason for this may be that constructions such as 'want to' or 'decide to' are treated as a unit so that it is easy to memorize these constructions.

Bloom et al. (1984) state that children interpret the preposition '*to*' as meaning the "direction towards" as indicated by the matrix verb. It is not clear whether this semantic interpretation may make it easier to master *to* infinitives. In this respect, it is not within the scope of this study to investi-

gate if the subjects may recognize the meaning of the syntactic marker. However, it is important that learners recognize its meaning as well as the semantic principle proposed by Bolinger (1968).

Second, bare infinitives were not the easiest verb complements. They proved to be the most difficult among the three complements. This ordering is in accord with the results of Anderson's (1976) study (in the case of Spanish and Persian ESL learners) and Butoyi's (1978) study (in the case of Persian ESL learners). There are two explanations for this. First, it seems that the frequency of bare infinitives that appeared in the textbooks was low, compared with *to* infinitive and gerund complements. Second, it may be that the subjects thought it strange to use two root verbs in one sentence. At any rate, the lack of input may lead to the difficulty of bare infinitives.

## 6. CONCLUSION

The results in this classroom research reveal that the theory of markedness is valid in the case of Japanese senior high school students of EFL to some extent. The data show the following accuracy order of verb complements :

*to* infinitive > gerund > bare infinitive

That is, *to* infinitives were easier to acquire than gerunds, which were easier than bare infinitives. This finding conforms to the results of previous first and second language acquisition research.

The pedagogical implication may be that teachers should provide sufficient input of bare infinitives. It is recommended that teachers raise the students' grammatical consciousness of bare infinitives.

It should be noted that it is dangerous to reach firm conclusions based on this small-scale research : the number of subjects were small (n=199), and there was no test given to elicit data regarding the subjects' productive knowledge of verb complements.

Further research should include longitudinal data to investigate the developmental sequence in the case of EFL learners. Moreover, it would be very interesting to examine the following acquisition order of gerunds,

based on historical changes : ing-of (e.g., John's singing of the song) > Poss-ing (Possessive-ing ; e.g., John's singing the song) > Acc-ing (Accusative-ing ; e.g., John singing the song) (see Abney 1987).

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**APPENDIX : English test**

[TEST I] Correct the following word in the bracket.

- 1 Tom finished (write) a report last night.
- 2 One of my American friends wants (study) Japanese.
- 3 The girl makes me (laugh) very often.
- 4 Mary enjoyed (talk) with her grandmother on the phone.
- 5 I have decided (take) a trip this summer.
- 6 Please let me (know) when you come back.
- 7 Would you mind (open) the door?
- 8 I promise (finish) this task by next week.
- 9 I'll have the boy (deliver) the package tomorrow.
- 10 The telephone kept (ring) for an hour.
- 11 My mother needs (tell) me that fact.

[TEST II] Correct the following underlined word, if it is not used correctly.

- 1 All the girls in this class decided going to the party.
- 2 She made me to cry.
- 3 I have already finished to do this homework.
- 4 Tom kept practicing the piano for a long time.
- 5 Do I need buying this?
- 6 Let me give you a hand.
- 7 He promised staying here.
- 8 I don't want eating an apple.
- 9 I'll have him to come to your company tomorrow.
- 10 Do you mind making a less noise?
- 11 Tom enjoyed to play tennis with his friends last Sunday.