Learning simple and complex rules : Acquisition of Japanese location particles and conjectural auxiliaries

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Keyword

Abstract

This study examines the potentially facilitative effects of explicit instructional treatment (i.e., a brief grammar instruction followed by presentation of examples) and implicit instructional treatment (i.e., textual enhancement that attempts to draw learners' attention to target forms in the input) on the learning of semantically simple rules (location particles ni and de) and complex rules (four types of Japanese conjectural auxiliaries). Outcomes of these treatments were compared in a controlled experimental study involving 42 college learners of Japanese. Results indicate that the explicit treatment had the significant effect on learning both simple and complex rules as measured by five tasks, while the implicit treatment had an impact on learning the simple rules.

1.0 BACKGROUND OF THE STUDY

While Krashen (1982) claimed that explicit knowledge of grammatical rules was not directly responsible for spontaneous communication, a number of the cognitively-oriented second language acquisition (SLA) researchers supported the notion that conscious awareness of the form of input was essential to language acquisition, and argued that explicit instruction is beneficial because it can provide opportunities for learners to focus their attention selectively on features of the target language input (e.g., Bialystok, 1981, 1990; Rutherford 1987; Schmidt, 1990, 1993; Sharwood Smith 1991, 1993). However, determining the optimal degree of explicitness in grammar instruction and the relative advantages of the explicit/implicit instructional treatment for specific types of forms in languages remain the subject of much debate.

Schmidt (1990, 1993) claimed that conscious awareness of the form of input at the level of "noticing" is necessary for learners to acquire languages. SLA researchers further suggested how this conscious attention to input can most effectively be brought about in the classroom. Techniques for making certain forms salient may range, for example, from explicit approaches,

such as metalinguistic discussion of forms (Tomasello & Herron, 1988) to more implicit methods, such as providing implicit negative feedback (Carroll & Swain, 1993; Doughty & Varela, 1998), input flooding (Trahey, 1996; Trahey & White, 1993), and textual manipulation (e.g., Alanen, 1995; Doughty, 1991; Jourdenais, 1998; Jourdenais, Ota, Stauffer, Boyson, & Doughty, 1995; Izumi, 2002; Leow, 1997; White, 1998). Among the implicit techniques, textual input enhancement, which increases the perceptual salience of the target form by various formatting techniques (e.g., upper-casing, bolding, and underlining), attracts much attention as a promising and unobtrusive way to draw learners' attention to problematic aspects in the input. However, previous studies on textual input enhancement produced quite mixed results. Some studies (Doughty, 1991; Jourdenais, 1998; Jourdenais, et al, 1995; White, 1998) reported positive findings for the facilitative effect of textual enhancement, while others (Alanen, 1995; Izumi, 2002; Leow, 1997) found no significant effect. The failure to reach a consensus on the results may be due to differences in the instruction that partici-pants received (i.e., whether participants were instructed to pay attention to the enhanced forms or to read for comprehension), the particular linguistic forms that were enhanced (i.e., whether the forms are meaning bearing), and duration of the treatment. Clearly, further research is needed to determine whether previous findings on input enhancement can be generalized to a variety of tar-get languages and structural rules.

Explicitly presenting L2 learners with a structural rule and providing examples is proposed as another effective means of drawing learners' attention to target forms in input. In 1970 to 1980, how-ever, it was claimed that implicit learning is more robust than learning with awareness and that instructing individuals to learn explicitly by priming them to search for rules has a detrimental effect (Krashen, 1982; Reber, 1976). Moreover, Reber (1989) stated that complex rules are only learnable in an implicit learning condition, while easy rules can be learned in explicit learning con-dition. Nonetheless, recent studies reported the superiority of an explicit learning condition over an implicit learning condition in acquiring certain grammar rules (DeKeyser, 1995; N. Ellis, 1993; Robinson, 1996). DeKeyser (1995) conducted a computerized experiment on American college stu-dents' acquisition of a miniature linguistic system consisting of five morphological rules and a lexi-con of an artificial language. He tested whether an explicit-deductive learning or an implicit-induc-tive learning condition worked better for learning easy ("categorical") rules and difficult "prototypi-cal patterns") rules. DeKeyser defined prototypical rules as difficult rules because they are proba-bilistic (i.e., the percentage of cases in which they actually apply is low). Categorical rules were defined as simple rules because they are absolute and have high reliability. The explicit-deductive learning condition was implemented by the presentation of grammar rules followed by thousands of picture/sentence combinations with English translations, while the implicit-inductive learning con-dition was done by mere exposure to combinations of pictures and target language sentences. His hypothesis that the explicit-deductive learning condition would yield higher retention scores than

the implicit-inductive learning condition for simple morphosyntactic rules was supported. However, the hypothesis that the implicit-inductive learning condition would be more effective than the explicit-deductive learning condition for abstract (linguistic prototypes) rules was not statistically supported. DeKeyser's findings were very significant in verifying the effects of explicit instruction in learning simple rules, and more importantly, he cast doubt on Reber's and Krashen's claim that participants learned complex rules better under implicit, rather than explicit learning conditions.

Conducting an experiment with one hundred and four ESL learners, Robinson (1996) rebutted by hypothesizing the superior effects of an implicit learning condition in acquiring complex rules and indicated that explicit instruction is superior to implicit and incidental learning conditions in internalizing both simple and complex rules. In a complex computer-assisted experiment similar to DeKeyser's (1995) study, N. Ellis (1993) found that the structural group which received explicit grammar rule explanation followed by structured presentation of examples best acquired the complex phonological rule for soft mutation of initial consonants in Welsh. The results suggest that the combination of rules and carefully considered, structured examples yield the most effective result for learning complex rules.

In summary, these studies have indicated that an explicit learning condition seems to have positive effects on L2 learning, and that the effects of explicit and implicit learning conditions may heavily depend on the nature of the target forms (simple or difficult rules). The present study attempts to contribute to this area of research by determining whether explicit knowledge of structural rules (explicit instructional treatment), on the one hand, and drawing learners' attention to the problematic aspects in the input by textual enhancement (implicit instructional treatment), on the other, impact second language development positively. Furthermore, it aims to determine whether Japanese simple and complex rules are amenable to either an explicit learning condition or implicit learning condition. To date, there have been no studies that specifically observed the relationship between rule complexity and explicit/implicit learning in Japanese.

2.0 RESEARCH QUESTIONS

The research questions generated in this study are the following:

1. Does the type of instructional treatment (explicit vs. implicit) have a differential effect on learning Japanese conjectural auxiliaries and Japanese particles *ni* and *de*?
2. If so, will the effects be maintained for nine weeks?

3.0 METHOD

3.1 Participants

The participants were 42 learners of Japanese as a foreign language studying at a major

research university in the U.S. They were 19 males and 23 females; 38 native speakers of English, one native speaker of Korean, one native speaker of Russian, and two native speakers of Mandarin Chinese. 22 students were enrolled in a third-year course (Japanese Level III: fifth semester) and 20 in a fourth-year course (Japanese Level IV: seventh semester). At the time the study was conducted, the subjects in Japanese Level III and Level IV had approximately 310 hours and 420 hours of classroom instruction, respectively.

3.2 Target forms

3.2.1 Location particles ni and de

Location particles *ni* and *de* were selected for easy rules. Both *ni* and *de* indicate the location, equivalent to English at/in/on, but *ni* indicates the location where someone/something exists, while *de* is used only to indicate the location where some event or action occurs. For example:

(1) *Resutoran ni imasu.* (existence)

   (I) am in the restaurant.

(2) *Resutoran de tabemasu.* (action/event)

   (I) eat at the restaurant.

Previous studies on the acquisition of Japanese particles indicated that learners of Japanese often mixed the distinctive usage between the two because of overgenelarized usage of *ni* and the incorrect strategy for combining *ni* with the nouns indicating places and *de* with place names and buildings (Kubota, 1994; Matsuda & Saito, 1992). How to teach these particles effectively is still not known, thus it was determined that the amenability of theses forms to explicit and implicit instruction should be investigated.

Some participants who had taken Level I Japanese courses at this institution had been taught the particles *ni* and *de* before. Although these particles were introduced early on, the percentages of mean scores on the pretest were 30.1 for the oral production test, 45.7 for the written production test, 42.3 for the grammaticality judgment test, 25.1 for the oral story description test, 30.7 for the written story description test, respectively. Despite the fact that the participants received instruction on the location particles prior to the experiment, the subjects had not yet mastered them before the instruction treatments.

3.2.2 Conjectural auxiliaries

As for the complex rules, the four types of Japanese conjectural auxiliaries were selected. They are: "Sentence (S) + *yoo da*", "S + *soo da*," "S + *rashii*," and "S + *daroo*," which all express the likelihood of something happening. The usage of conjectural auxiliaries depends heavily on abstract characteristics of the context: speakers have to determine the usage of the four auxiliaries

based on the degree of certainty of their conjecture and the type of information source on which the conjecture relies. Whether or not the participants were able to distinguish between the usage of the four conjectural auxiliaries and utilize the appropriate auxiliary in a given context after the instruction was the focus of the analysis.

Makino and Tsutsui (1986) explain the differences of the four auxiliary adjectives.

"*Yoo da*" (appears–) is an expression in which the speaker's conjecture is usually based on visual information sources: what the speaker sees or saw. However, this expression also involves the speaker's *reasoning process based on firsthand, reliable information and his/her knowledge*. Consider the following sentences,

(3)   *Kono doresu wa watashi ni wa sukoshi kitsui yoo da.*

(Judging from actually having tried it on), this dress seems little tight on me.

"*Soo da*" (looks like–) is the speaker's conjecture about what is going to happen or the current state of someone or something. Although the speaker's statement is based on what he/she sees or feels, it is merely his/her guess. For example,

(4)   *Ame ga furi soo da.*

(Judging from the dark sky), it looks like it is going to rain.

When using "*rashii*" (hearsay, seems), speakers' conjectures are based on what they have heard or read. That is, the information upon which the conjecture is based is not firsthand. For example,

(5)   *Kyoo wa yuki ga furu rashii.*

(Based on what I heard), it seems it is going to snow today.

"*Daroo*" (probably, I suppose) expresses the speaker's conjecture which is not necessarily based on any information. In other words, this expression is used when the speaker is merely guessing. For example,

(6)   *Ano restoran wa takai daroo.*

That restaurant is probably expensive.

Some participants who had taken Level II and III Japanese courses at this institution had been taught the conjectural auxiliaries in previous classes. Each conjectural auxiliary was introduced separately and without a systematic explanation of how to distinguish between the four conjectural auxiliaries. The percentages of mean scores on the pretest were 41.0 for the oral production test, 52.4 for the written production test, 52.4 for the grammaticality judgment test, 30.3 for the oral story description test, 32.8 for the written story description test, respectively. Despite the fact that the participants received instruction on the conjectural auxiliaries prior to the experiment, all of them were far from mastery at the outset of the study.

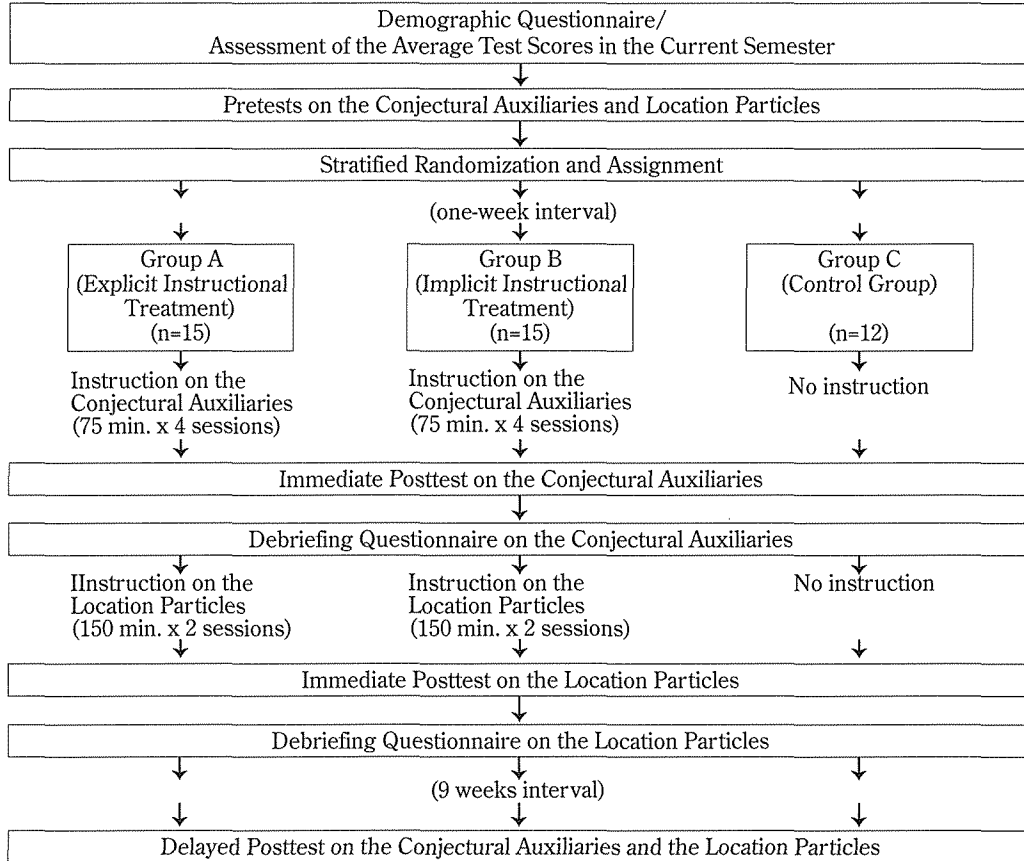### 3.2.3 Rationale for judging simple and hard rules

Among a number of linguistic criteria for distinguishing simple and hard rules proposed by SLA researchers, the researcher considered it necessary in the present study to refer to more than one criterion in order to determine that the target forms represent simple and complex rules. The researcher primarily followed the criteria of distance and abstractness (Hulstijn & De Graaff, 1994) and expert judgment (Robinson, 1996). Hulstijn and De Graaff (1994) proposed that rules could be complex when there are fewer possibilities of item memorization. Two factors—distance and abstractness—determine the ease of memorization. In other words, how far a form is from its trigger in the context, and how much it depends on an abstract characteristic of the environment rather than on a concrete surface element, determine whether learners can memorize the form or not. In the case of the Japanese conjectural auxiliaries, the distinctive usage patterns of the four are hard to memorize because the trigger for choosing the correct form among the four involves semantic/pragmatic restriction and cannot be found in the concrete surface elements of the sentence. Choosing the correct form depends largely on an abstract characteristic of the environment, namely the certainty of the speakers' conjectures and the types of information upon which their conjectures rely. Concerning the location particles, as previous studies indicated the learners' tendency to assign the particle in the combination with nouns and verbs, the possibility that the learners can memorize the appropriate use of particles based on the given context is high. Although the location particles rules also involve semantic restriction, the trigger for the correct form can be found on the surface of the sentence (i.e., verbs that accompany *ni* or *de*). Thus, the location particles can be categorized as easy rules.

Second, the researcher utilized Robinson's (1996) procedure of asking professional Japanese teachers to rate the difficulty of the Japanese conjectural auxiliaries. Fifty experienced instructors of Japanese as a foreign language were asked to fill out the questionnaire, which asked them to rate twenty grammatical items (including the conjectural auxiliaries and the particles *ni* and *de*) using a 10 point scale. Moreover, it asked the teachers to note if there were any specific incidents or episodes that showed why the items were hard to teach or to learn. 48 out of 50 teachers (96%) answered that they thought that the distinctive usage of conjectural auxiliaries were difficult to teach and to learn, and reported that it is because conjectural expressions have many variations and there are no clear-cut answers as to which form should be used in which context. 49 out of 50 teachers (98%) reported that the distinctive usage of the particles *ni* and *de* is easy, because there are only two choices of particles that mark locations and learners can easily distinguish their correct usage once they learned to pay attention to the semantic properties of the associated verbs/verbs that follow.

3.3 Experimental design

In order to examine the immediate-and delayed effects of instructional treatments, one pretest and two post-tests were administered with an interval of nine weeks between the immediate and the delayed posttests. Figure 1 presents an overview of the experimental design of the study.

Figure 1: An overview of the experimental design

Demographic Questionnaire/ Assessment of the Average Test Scores in the Current Semester

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Pretests on the Conjectural Auxiliaries and Location Particles

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Stratified Randomization and Assignment

(one-week interval)

Group A (Explicit Instructional Treatment) (n=15)	Group B (Implicit Instructional Treatment) (n=15)	Group C (Control Group) (n=12)

| Instruction on the Conjectural Auxiliaries (75 min. x 4 sessions) | Instruction on the Conjectural Auxiliaries (75 min. x 4 sessions) | No instruction |

↓

Immediate Posttest on the Conjectural Auxiliaries

↓

Debriefing Questionnaire on the Conjectural Auxiliaries

| IInstruction on the Location Particles (150 min. x 2 sessions) | Instruction on the Location Particles (150 min. x 2 sessions) | No instruction |

Immediate Posttest on the Location Particles

↓

Debriefing Questionnaire on the Location Particles

(9 weeks interval)

Delayed Posttest on the Conjectural Auxiliaries and the Location Particles

3.4 Instructional treatment

The subjects participated in ten hours of instruction, in which they learned about conjectural auxiliaries for five hours and location particles for five hours. There were four sessions on the conjectural auxiliaries, with one conjectural auxiliary was the focus of each 75-minute instruction session. There were two sessions on location particles and one particle was the focus of each instruction session which lasted 150 minutes. In each session the order of activities in the explicit instructional treatment group was follows: 1) a brief (about five minutes) explanation of the forms using a handout, 2) systematic presentation of example sentences with pictures, 3) listening exercise, and 4) reading comprehension exercise. The implicit instructional treatment group received exactly the same example sentences and the pictures and completed the identical listening and reading activi-

ties as the explicit group. The instruction, however, differed on two points. First, the implicit group was not given any metalinguistic explanations of the target forms and was not allowed to ask questions about the forms. Second, in the written materials that they received (i.e., example sentences and reading passages), all the conjectural auxiliaries and the location particles were underlined in order to indirectly attract participants' attention to form. Thus, the order of the activities that the implicit group followed was: 1) systematic presentation of the example sentences with pictures, 2) listening comprehension exercise, and 3) reading comprehension exercise. The control group received no instruction, but took the tests three times (pretest, immediate posttest, and delayed posttest).

3.5 Testing measures

The participants were tested on their understanding of the location particles and the conjectural auxiliaries in both written and oral modes, in five different tasks: 1) an oral production test, 2) a written production test, 3) a grammaticality judgment test, 4) an oral story description test, and 5) a written story description test. In the oral and written production tests for both target forms, there were twenty questions, each with a picture that described the content of the sentence(s). The participants were instructed to think about what the person(s) was probably doing or saying in the pictured situation and to fill in the parenthesis with an appropriate sentence using the proper conjectural expression, *yoo da, soo da, rashii, or daroo*, or the location particles, *ni* or *de*. Then they recorded their performance onto a tape or wrote it down on the answer sheet.

The grammaticality judgment test consisted of forty-five questions. The participants were instructed to read each sentence carefully and decide whether the underlined parts of the sentence were correct or incorrect. They were instructed to circle the underlined parts if they judged them to be correct, and to correct the underlined part if they considered it to be incorrect. They were informed that there were no mistakes in Kanji characters. The oral and written story description tests consisted of three comic strips. Beside each picture (each comic strip consisted of four pictures), some key vocabulary items were provided to ensure that the participants' stories would have the same story line and to create an obligatory context to use the target forms in telling the story. The participants were instructed to tell a story based on the comic strip, and to record their performance onto a tape or write it down on the answer sheet.

While the oral production, written production, and grammaticality judgment tests were relatively discrete, controlled tasks, the oral and written story description tests were more spontaneous communicative measures of the participants' learning of the target forms.

4.0 RESULTS

4.1 Descriptive scores for the five tasks for the conjectural auxiliaries

Figures 2-6 display the mean scores of the two experimental groups and the control group for each test in the case of the conjectural auxiliaries.

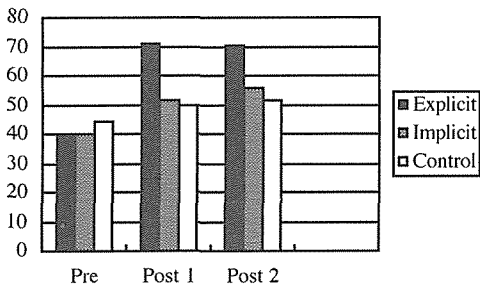**Figure 2: Mean scores for the oral production test of the conjectural auxiliaries**

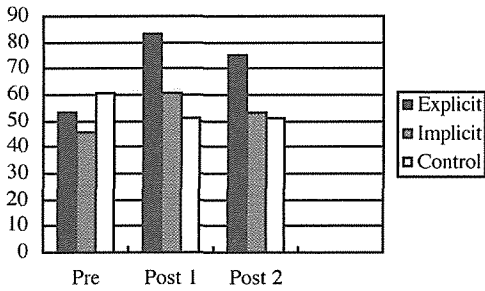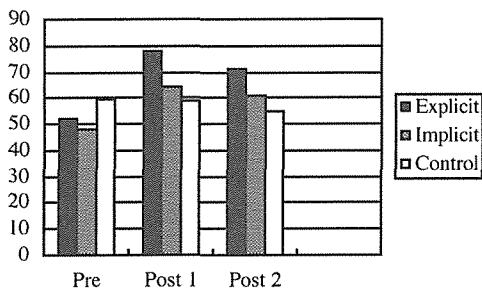**Figure 3: Mean scores for the written production test of the conjectural auxiliaries**

Figure 4: Mean scores for the grammaticality judgment test of the conjectural auxiliaries

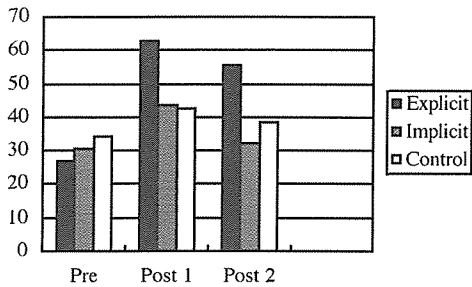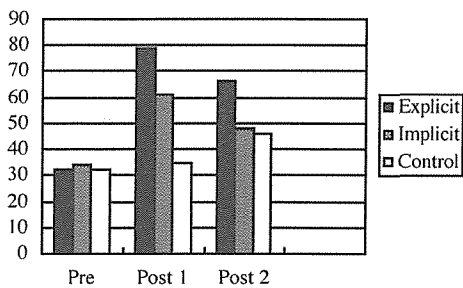**Figure 5: Mean scores from the oral story description test of the conjectural auxiliaries**

Figure 6: Mean scores from the written story description test of the conjectural auxiliaries

4.2 Descriptive scores for the five tasks for the location particles

Figures 7-11 display the mean scores of the two experimental groups and the control group for each test in the case of the location particles ni and de.

Figure 7: Mean scores for the oral production test of the location particles
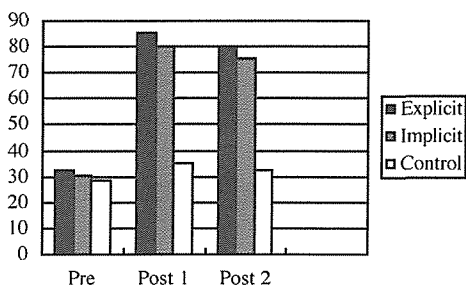
Figure 8: Mean scores for the written production test of the location particles
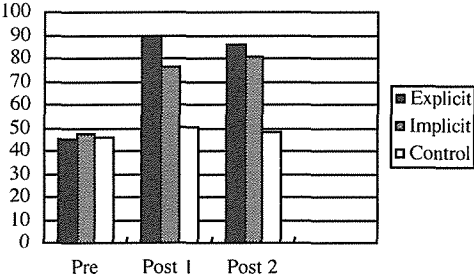

Figure 9: Mean scores for the grammaticality judgment test of the location particles
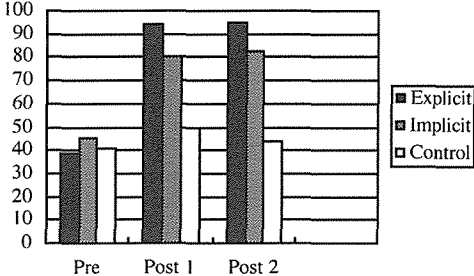

Figure 10: Mean scores from the oral story description test of the location particles
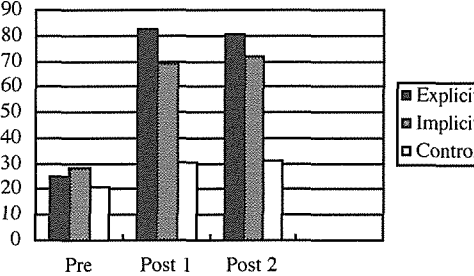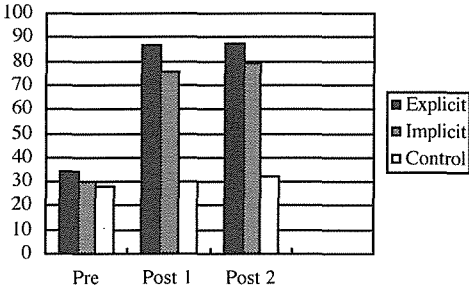

Figure 11: Mean scores from the written story description test of the location particles

Overall, the descriptive statistics for the five tasks in the cases of the conjectural auxiliaries and the location particles show that the explicit group outperformed both the implicit group and the control group on every test for both the conjectural auxiliaries and the location particles. The implicit group also outperformed the control group on every test in the case of the location particles, but the difference between the implicit group and the control group appeared to be quite small in the case of the conjectural auxiliaries.

4.3 Statistical analyses of the explicit and implicit instructional treatment

The results of a one-way ANOVA revealed that there was no significant difference between the performance of the three groups on the pretest on the five tasks (for the conjectural auxiliaries: the oral production: $F(2/39)=0.43$, n.s.; the written production: $F(2/39)=3.17$, n.s.; the grammaticality judgment: $F(2/39)=3.17$, n.s.; the oral story description: $F(2/39)=0.56$, n.s.; the written story description: $F(2/39)=0.09$, n.s. For the location particles: the oral production:$F(2/39)=0.08$, n.s.; the written production: $F(2/39)=0.09$, n.s.; the grammaticality judgment: $F(2/39)=0.11$, n.s.; the oral story description: $F(2/39)=0.09$, n.s.; the written story description: $F(2/39)=0.09$, n.s. with $p<.05$ level). Thus, any gains on the posttests are due to the treatment and not due to preexisting differences among the groups.

To address the research questions, the mean scores for the five tasks for each target form were submitted to separate repeated-measures ANOVA, with one-between- and one-within-subject factorial design. Instruction (Explicit vs. Implicit vs. Control) was entered as the between-subject independent variable while Time (pretest vs. immediate posttest vs. delayed posttest) was entered as the within-subject independent variable. As to the conjectural auxiliaries, the repeated-measures ANOVAs revealed a significant main effect for Instruction, a significant main effect for Time, and a significant two-way interaction effect for Instruction x Time in three of the five testing measures: the written production test, the grammaticality judgment test, and the written story description test. Moreover, there were trends towards main effects in the oral production and the oral story description tests. Regarding the location particles, the repeated-measures ANOVAs revealed a significant main effect for Instruction, a significant main effect for Time, and a significant two-way interaction effect for Instruction x Time in all the five testing measures.

To tease apart instructional effects, multiple comparisons between groups and tests were carried out for all the tests using the Least Square Difference (LSD) test. To provide an overview of the major findings on the effects of explicit and implicit instructional treatments, Tables 1 and 2 display summaries of the findings of the between-group comparisons. Tables 3 through 7 provide summaries of the between-test comparisons.

Table 1. Summary of the results of between-group comparisons for posttest 1

Conjectural Auxiliaries:

OP	WP	GJ	OS	WS
E > I =C	E > I =C E	E > I =C	E > I =C	E > I >C

Location Particles:

OP	WP	GJ	OS	WS
E > I =C	E > I =C E	E > I =C	E > I =C	E > I >C

Table 2. Summary of the results of between-group comparisons for posttest 2

Conjectural Auxiliaries:

OP	WP	GJ	OS	WS
E > I =C	E > I =C E	E > I =C	E > I =C	E > I >C

Location Particles:

OP	WP	GJ	OS	WS
E > I =C	E > I =C E	E > I =C	E > I =C	E > I >C

Table 3. Summary of the results of between-test comparisons for the oral production test

Conjectural Auxiliaries:

Explicit Group	Implicit Group	Control Group
Pretest < Post 1 = Post 2	Pretest < Post 1 = Post 2	Pretest = Post 1 = Post 2

Location Particles:

Explicit Group	Implicit Group	Control Group
Pretest < Post 1 = Post 2	Pretest < Post 1 = Post 2	Pretest = Post 1 = Post 2

Table 4. Summary of the results of between-test comparisons for the written production test

Conjectural Auxiliaries:

Explicit Group	Implicit Group	Control Group
Pretest < Post 1 = Post 2	Pretest < Post 1 = Post 2	Pretest = Post 1 = Post 2

Location Particles:

Explicit Group	Implicit Group	Control Group
Pretest < Post 1 = Post 2	Pretest < Post 1 = Post 2	Pretest = Post 1 = Post 2

Table 5. Summary of the results of between-test comparisons for the grammaticality judgment test

Conjectural Auxiliaries:

Explicit Group	Implicit Group	Control Group
Pretest < Post 1 = Post 2	Pretest < Post 1 = Post 2	Pretest = Post 1 = Post 2

Location Particles:

Explicit Group	Implicit Group	Control Group
Pretest < Post 1 = Post 2	Pretest < Post 1 = Post 2	Pretest = Post 1 = Post 2

Table 6. Summary of the results of between-test comparisons for the oral story description test

Conjectural Auxiliaries:

Explicit Group	Implicit Group	Control Group
Pretest < Post 1 = Post 2	Pretest < Post 1 Pretest = Post 2	Pretest = Post 1 = Post 2

Location Particles:

Explicit Group	Implicit Group	Control Group
Pretest < Post 1 = Post 2	Pretest < Post 1 = Post 2	Pretest = Post 1 = Post 2

Table 7. Summary of the results of between-test comparisons for the written story description test

Conjectural Auxiliaries:

Explicit Group	Implicit Group	Control Group
Pretest < Post 1 = Post 2	Pretest < Post 1 = Post 2	Pretest = Post 1 = Post 2

Location Particles:

Explicit Group	Implicit Group	Control Group
Pretest < Post 1 = Post 2	Pretest < Post 1 = Post 2	Pretest = Post 1 = Post 2

*E = Explicit Group, I = Implicit Group, C = Control Group
*OP = Oral production, WP = Written Production, GJ = Grammaticality judgment, OS = Oral story description, WS = Written story description

In short, the explicit group significantly outperformed the implicit and control groups in both the controlled and the spontaneous tasks for the location particles (simple rule), as well as the conjectural auxiliaries (complex rule). However, with the conjectural auxiliaries, the implicit group significantly outperformed the control group only in the written story description task in the immediate posttest and there were no significant differences between the two groups with regards to the other four tasks. Concerning the location particles, the implicit group significantly outperformed the control group in every task. Both the explicit and implicit groups significantly improved after the instruction in all the tasks for both target forms. Furthermore, in the case of the conjectural auxiliaries, the participants in the explicit group retained their knowledge of the target forms over a nine week period after the instruction on every task, while the implicit group did so on four tasks, but not on the oral story description task. As for the location particles, both the explicit and implicit groups retained their knowledge over nine weeks on every task.

5.0 DISCUSSION

As for the effects of an explicit instructional treatment, the present study demonstrated that the explicit instructional treatment group significantly outperformed the control group in all the tests, in both the controlled (i.e., the oral production test, the written production test, and the grammaticality judgment test) and the spontaneous tasks (i.e., the oral story description test and the written story description test) on both posttests, regardless of the complexity of the rules. These findings indicate that the explicit instructional treatment, in which learners were provided with a brief, explicit grammar explanation on the target forms followed by a systematic presentation of examples and meaning-oriented listening and reading activities, facilitated the learning of simple and complex aspects of Japanese semantic rules. These results are consistent with the previous research claiming some beneficial effects of explicit presentation of the rules on language learning (DeKeyser, 1995, 1998; N. Ellis, 1993; Robinson, 1996). DeKeyser (1998) suggested that, when planning a teaching unit, "declarative knowledge should be developed first before it can be proceduralized" (p. 58). Thus, if the grammar is taught, it should be taught explicitly to promote learners' maximum understanding, before engaging in communication exercises that anchor the declarative knowledge into students' interlanguage system. In the present study, the explicit instructional treatment group was provided with explicit grammar teaching followed by ample examples and practice. This process seems to have facilitated anchoring students' declarative knowledge and led to higher attainment toward mastery of Japanese conjectural auxiliaries and location particles.

Why the explicit instructional treatment was successful may be explained by the following reasons. First, the explicit instructional treatment was beneficial because the participants received straightforward explanations of the rules with the structured display of examples (N. Ellis, 1993; N. Ellis & Laporte, 1997). It was that explicit explanations of the rule alone (not accompanied by any

examples) or rule presentation plus examples randomly structured did not benefit learners' language development and was detrimental at worst (Reber, Kassin, Lewis, & Cantor, 1980; VanPatten & Oikkenon, 1996). Second, the participants in the explicit group could adopt a "selective mode of learning," as Ellis and Laporte (1997) proposed. Because the participants were explicitly told the focus of the underlying rules, they could "selectively" pay attention to the target form and were able to test and reformulate their hypothesis every time they encountered structured examples.

Regarding the implicit group, the effects of textual enhancement that attempted to direct learners' attention to form by underlining the target forms in the example sentences and reading materials were significant in the acquisition of the simple rule (location particles in this case). However, in regards to the complex rule (the conjectural auxiliaries), the implicit group performed statistically better than the control group only in the written story on the immediate posttest. According to the results in the debriefing questionnaire in the present study, most participants in the implicit group (86.7%) reported that they noticed that Japanese location particles and conjectural auxiliaries were the focus of the tests and the instruction sessions. Thus, one may infer that input enhancement successfully drew the majority of the implicit group participants' attention to forms. The fact that the implicit instructional treatment did not result in statistical significance when compared to the other group when learning the conjectural auxiliaries may be due to two factors. First, the Japanese conjectural auxiliaries are non-obligatory forms. Since understanding the conjectural auxiliaries is not crucial for communication, these forms have less semantic value and may draw less attention from the participants. Second, although most of the participants in the implicit group noticed the presence of the conjectural auxiliaries in the input, they did not succeed in figuring out what distinguishes the usage of the four expressions during the short period of time in the present study. Thus, it is possible to say that the implicit group participants did "notice" the presence of the target forms that were the focus, but they did not reach the level of "understanding"—which is a higher level of awareness than "noticing"— over the three month period of the experiment (Schmidt, 1990). However, in the case of the location particles *ni* and *de*, attention to form and provision of a sufficient amount of input enabled the participants to understand the distinctive usage between the two.

In summary, the present study has the following significance in terms of providing current applied linguistics research with a new perspective. First, it is one of few empirical studies that has investigated the acquisition of the simple and complex rules targeting a real language (in the present study, Japanese) in a classroom setting. Second, the study suggests that an explicit instructional treatment is more effective with both simple and complex rules when compared to an implicit instructional treatment (i.e., textual enhancement, in this study). The results provide a counter argument to Krashen (1982) and Rebers'(1976) claim that complex rules are better learned in an implicit learning condition. Third, while the previous studies such as DeKeyser (1995) and

Robinson (1996) involved morphological and syntactic rules, the present study involved subtle semantic and pragmatic distinctions that were not governed by the immediate linguistic contexts. Fourth, while most of the empirical studies used grammaticality judgment tests to test participants' language development, the present study utilized a variety of tasks in order to measure the students' understanding of the forms from various perspectives: spontaneous and controlled, and written and oral modes.

The findings from the present study must be interpreted in light of several limitations, which suggest directions for future research. First, the size of the population is not great enough to claim generalizability of the results; future studies need to include more subjects. Second, nine week may not be long enough to measure the long-term effects of explicit/implicit learning condition. Especially, since implicit learning is known to take longer to occur (R. Ellis, 1994; Krashen, 1985), the researcher could have given participants Posttest 3 in the semester following the one in which data were collected. If so, the implicit group might have shown retention of knowledge, while the explicit group might have forgotten what they learned. Third, because the treatment was implicit, more repetitions, and larger amounts of exemplars and comprehensible input may have been needed for restructuring to occur in the implicit group participants' interlanguage system (Robinson, 1996). This claim is supported by the results of the debriefing questionnaire which showed that quite a few implicit participants (33%) were starting to induce rules of how to distinguish the usage of the conjectural auxiliaries during the experiment. The author hopes to address these issues in future studies.

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易しい言語型式と複雑な言語型式の習得に適した学習条件：
——助詞「に」「で」と推量助動詞の場合——

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キーワード

明示的，暗示的学習条件，インプット強化，易しい言語型式，複雑な言語型式

要　旨

　本稿では，助詞「に」「で」と四つの推量助動詞「ようだ」「そうだ」「らしい」「だろう」の習得における明示的学習条件と暗示的学習条件の効果について考察する。42人のアメリカの大学生の日本語学習者が二つの実験群（明示的グループ，暗示的グループ）と対照群に無作為に分けられ，易しい言語型式（助詞），複雑な言語型式（推量助動詞）についてそれぞれ学習した。明示的学習グループは簡潔で系統だった文法説明を受けた後，聞き取りや読解などの意味中心の教室活動を行った。暗示的学習グループも全く同じ教室活動を行ったが，文法説明は受けなかった。そのかわり視覚的に学習者の注意を目標言語型式に向けさせるように助詞「に」「で」と４つの推量助動詞には全て下線が引かれていた。五種類のテストを用いて事前テスト，直後テスト，遅延テスト（九週間後）を行い，テストのスコアを統計分析した結果，明示的グループは暗示的グループ，統制群をはるかに上回り，その差は統計学的に有意であった。暗示的グループは易しい言語型式においてのみ統制群との差が有意であった。明示的学習条件は助詞「に」「で」や推量助動詞のように意味論的制約を含んだ言語型式の習得の場合その難易度に関わらず有効であったと言える。また手短かな文法説明は意味重視の活動と組み合わされて行われた場合言語習得を促進するようである。まとめとして，どのような指導がどんな言語型式に有効かについて考察し，学習者の気付きを促す言語活動の適切な明示性の度合について論じる。