High and Low Achievers' Choice for Feedback Options on Closed-Exercises of Japanese Particles

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Abstract:
This study investigated whether level of achievement and difficulty of task influenced the students' choice and preferences for feedback options when doing computerized closed-exercises of Japanese particles. Forty-seven college students were divided into three groups: high-achievers (HA), middle-achievers (MA), and low-achievers (LA) based on their achievement level of Japanese. Four feedback options were provided: 1) right answer, 2) correct/incorrect information, 3) English translation, and 4) grammatical information. Analyses were conducted for two difficulty levels of task. Types of strategies used by HA and LA were also obtained by follow-up interviews. The study found that the level of student achievement and difficulty level of the task affects the students' choice of feedback options on the computerized closed-exercises of Japanese particles. HA used more types of feedback options when the task was more difficult, and they also chose grammatical information option more often than LA, while LA chose English translation option more often as a clue. The study suggests an innovative design of feedback options for language grammar exercises, which induces students to use grammatical information option more often.

Introduction
Individual differences should be addressed in the process of learning, and this is especially true in foreign and second language learning. A computer is regarded as an ideal, strong instructional device in language learning, since 1) it provides individualized instruction at an individual pace, 2) it motivates learners to learn, and 3) it can provide immediate feedback in a timely manner. Timely feedback provides various kinds of information to the learner simultaneously which the traditional workbook cannot. Many studies have been conducted to find which kind of feedback is more effective than others for learning, and recent CALL materials have more feedback options based on research findings. However, the finding that
students using a CALL material do not always outperform an equivalent group of students using a traditional workbook surprised the authors who posited a hypothesis that a CALL material would be more effective (Avent, 1993; Davis & Lyman-Hager, 1997; Ghaleb, 1993; Kim, 1993; Shibata, 2001; Stenson, 1992; Odenthal, 1993; Van Aacken, 1996). One of the reasons of such a result may be due to contradiction between the instructors' expectation of students' choice of feedback options and actual students' behavior of choice on feedback option of a CALL material. Unless the learners use feedback options effectively, the CALL materials are no more effective than traditional workbooks. It is necessary to find which feedback option is more effective on learning for improving the design of a CALL material, but it is also important to know the students' behavior of choice and preferences on such feedback options. Several previous studies have been conducted on the effectiveness of feedback options, but few studies have research has been focused on students' behavior of choice on feedback options especially for Japanese language specific. An additional empirical study is required to study students' behavior regarding choice of feedback options to provide better Japanese language instruction. This study investigates whether level of achievement and difficulty of task influenced college students' choice and preferences for feedback options on closed-exercises of Japanese particles, since the Japanese particle system is considered a major challenge for most Japanese learners due to its complexity and its absence from the learners' first language.

**Previous Studies**

Many previous studies have been conducted on what we can do with
computers and which feedback options are more effective for language learning. As technology becomes more advanced, more feedback features are available on CALL materials that are not available for traditional workbooks. Since traditional workbooks usually provide only right answers on the back pages, workbooks on computers need more than right/wrong information to surpass traditional workbooks.

Correct/incorrect information is considered indispensable in the operant learning theory, but the simple correct/incorrect feedback is not sufficient for error correction. Previous research revealed that in-depth explanation would be more effective and should be provided (Brandl, 1995; Carroll & Swain, 1993; Hendrickson, 1980; Nagata, 1993; Semke, 1984). In the area of Japanese, Nagata (1993) found that the feedback option of grammatical explanation decreased students’ errors in a post-test greater than the feedback option of simple correct/incorrect information. She also found that feedback option of grammatical explanation improved students’ understanding of Japanese particles compared to that of English translation (Nagata, 1995).

Educators agree that each student uses different strategy and preference of learning, and feedback would have to be tailored to the individual needs of each student (Cohen, 1975). Not all learners focus on feedback in the same way and to the same degree. Among the studies focused on students’ behavior of choice on feedback option, many researchers agree that explicit grammar study and corrective feedback play a positive role in Foreign language learning in general (Schulz, 2001; Seedhouse, 1997; Spada, 1997; Montello, 1997), and especially the weaker students benefit from an error correction technique that makes corrections more explicit (Montello, 1997). Brandl (1995) investigated students’ preferences for error
feedback options among four options, i.e., correct/incorrect message, error location, grammatical description, and correct answer on a German grammar test. He found that all students preferred the correct/incorrect option to the other options.

To consider learners' level of achievement, it is reported that high achievers (HA) and low achievers (LA) use different strategies in response to errors in language learning. Brandl (1995) found that high achievers (HA) chose the correct/incorrect option more often as a follow-up selection than lower achievers (LA). Cohen (1987) observed that those learners who rated themselves as better learners paid more attention to the basics. It was also found that good language learners are active users of available resources, i.e., sustaining and confirming grammar and vocabulary in a dictionary more often than poor learners (Stern, 1975; Tyache & Mendelsohn, 1986). In addition, good language learners were accurate guessers (Rubin, 1975) and engaged in self-monitoring (Tyacke & Mendelsohn, 1986). Kletzien (1991) found that good readers used more types of strategies and used these strategies more often than poor readers.

Researchers also found that the level of difficulty of task affect students' behavior of choice and preferences of feedback options. It was found that students tended to use more strategies for more complex and difficult tasks than simpler and easier tasks in general (Jamieson & Chapelle, 1987; Yoshida, Kitamura, Takeuchi, & Ikeda, 2001). Since most of these studies targeted on English learners, additional empirical studies are needed to explore if these findings would be generalized for the learners of Japanese.
Methodology

Subjects

Forty-seven students in an Introductory Japanese at a college in Southern California were the subjects of this study. The subjects were divided into three groups based on their average test scores on three in-class tests on previous chapters, i.e., the groups of high-achievers (HA), medium-achievers (MA) and low-achievers (LA). The numbers of students in each group were 17, 13 and 17 respectively.

Procedure

A set of closed-exercises of Japanese particles on the computer was developed by the author using an on-line quiz maker program, hot potato\(^1\). The set of exercises consisted of 20 fill-in exercises of Japanese particles with four types of feedback options, i.e., 1) correct answer, 2) correct/incorrect information, 3) grammatical information, and 4) an equivalent English translation. Grammatical information provided a short explanation of usage of each Japanese particle in the context. Questionnaire consisted of two questions for each answer of the Japanese particles exercises, i.e., whether they were 1) confident, 2) not certain, or 3) no idea about each of the answers, and which feedback option they chose and which order, if they used more than one option. In-class orientation of the computerized exercises and how to answer to the questionnaire was conducted to the students before the study. Average number of different types of feedback options used was calculated for each student and for each group, and for two levels of difficulty of tasks, i.e., “not certain” and “no idea” items separately. Follow-up one-to-one interviews were conducted by 10 students from LA group and HA group respectively, who were randomly chosen to
find which strategy they usually use when they don’t know the answer. Multiple answers were allowed from the following eight types of strategy: 1) grammatical information, before the word/sentence of the blank, 2) grammatical information, after the word/sentence of the blank, 3) grammatical information, both 1) and 2) above, 4) semantic information, idiomatic, 5) semantic information, phonological 6) English translation of the sentence, 7) no clue but feel it’s correct, 8) no clue and fill-in anyway. The data was analyzed statistically as follows:

1) ANOVA to compare the number of different type of feedback option used among the groups, 2) T-test to compare the number of different type of feedback option used by difficult levels of task (i.e., “not certain” versus “no idea”), 3) Compare the type of “first-hit” feedback option chosen by each group with the difficulty levels of the task, and 4) Compare the type of strategy to find a correct Japanese particle by higher achievers and lower achievers.

Results

Analysis of Variance was conducted to see if there was a significant difference among groups of different achievement in Japanese regarding the total number of different type of feedback options used. The analysis was conducted for ‘not certain’ question items and for ‘no idea’ ones separately. As shown in Table 1, no significant difference was found among groups for the total number of different types of feedback options used for a question of “not certain”, but a significant difference was found for a question of “no idea” between LA group and MA group, and LA group and HA group. On average, learners use two types of feedback
options when they are not confident about their answers across the groups, but MA group and HA group used more different types of options (3.41 and 3.08 respectively) than LA group (2.59).

Table 1: Analysis of Variance for Number of Feedback Options Used by Group

<table>
<thead>
<tr>
<th></th>
<th>LA Group</th>
<th>MA Group</th>
<th>HA Group</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Certain</td>
<td>2.00</td>
<td>2.46</td>
<td>2.24</td>
<td>2.44</td>
</tr>
<tr>
<td>No Idea</td>
<td>2.59</td>
<td>3.08</td>
<td>3.41</td>
<td>9.73**</td>
</tr>
</tbody>
</table>

Note: LA Group=Group of low achievers; MA Group=Group of medium achievers; HA Group=Group of high achievers. **p<.01. Significant Tukey pairs: a=LA Group and MA Group, b=LA Group and HA Group.

T-test was conducted to see if the difficulty level of task affects the total number of different types of feedback options used for each group. Table 2 shows that significant differences were found for all three groups between the total number of different feedback options used when the subjects were "not certain" to the answers and when they had not clues to the answers. Students used more feedback options to seek the correct answers when the task becomes more difficult for them regardless their level of achievement.
<table>
<thead>
<tr>
<th>Difficulty Level of Task</th>
<th>Not Certain</th>
<th>No Idea</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA Group</td>
<td>2.00</td>
<td>2.59</td>
<td>4.78**</td>
</tr>
<tr>
<td>MA Group</td>
<td>2.46</td>
<td>3.08</td>
<td>3.41**</td>
</tr>
<tr>
<td>HA Group</td>
<td>2.24</td>
<td>3.41</td>
<td>7.63**</td>
</tr>
</tbody>
</table>

Note: LA Group=Group of low achievers; MA Group=Group of medium achievers; HA Group=Group of high achievers.

**p<.01.

Table 3 shows the comparison of type of feedback option that each group chose for the first hit when the subjects were “not certain” to the answers and when they had no clues. Of the 17 in LA group, eight chose right answer option, seven chose correct/incorrect information, two chose English translation option and no one chose grammatical information option for “not certain” item. On the other hand, six chose grammar information option, eight for English translation option, three for correct/incorrect information option and no one chose for right answer option for “no idea” item. Of the 13 in MA group, six chose correct/incorrect information option, four for grammatical information, two for English translation and no one for right answer for “not certain” item. For “no idea” item, ten students chose grammatical information; three for translation, and no one chose neither correct/incorrect nor right answer. Of the 17 in HA group, 13 chose correct/incorrect, two chose right answer and one for grammar information option and English translation option respectively for “not certain” item. Fourteen students chose grammar, two for English translation; one for correct/incorrect information and no one chose right answer for
Table 3: Comparison of First-Hit Feedback Option by Group

<table>
<thead>
<tr>
<th>Feedback Option</th>
<th>Right Answer</th>
<th>Correct/Incorrect</th>
<th>Grammar</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA Group (17)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Certain</td>
<td>8</td>
<td>7</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>No Idea</td>
<td>0</td>
<td>3</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>MA Group (13)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Certain</td>
<td>1</td>
<td>6</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>No Idea</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>HA Group (17)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Certain</td>
<td>2</td>
<td>13</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>No Idea</td>
<td>0</td>
<td>1</td>
<td>14</td>
<td>2</td>
</tr>
</tbody>
</table>

Note: LA Group=Group of low achievers; MA Group=Group of medium achievers; HA Group=Group of high achievers.

As Figure 1 shows, ten students in HA group used grammatical information of both before and after the blank to find a correct Japanese particle, and only a few chose other options for closed-exercises when the subjects had no clues for the answers. Of the ten low achievers, seven students chose the strategy of English translation of the meaning of the sentence to guess the correct answer, and a few students used “guessing” (strategy 7 and 8) without having any reasonable clue.
Discussion

It was observed that the level of student achievement did not affect the total number of different types of feedback options used when the question is less difficult, but affected significantly when the difficulty level of the question increased, i.e., when the question became more difficult, the students used more types of feedback option than easier questions across the groups. It was also observed that higher achievers seem to use more feedback options than the lower achievers. These results were consistent with previous studies, which found that more complex tasks elicited more strategy use than simpler tasks (Jamieson and Chapelle, 1987; Kletzien, 1991), and higher achievers used more options than lower achievers (Brandl, 1995; Yoshida, Kitamura, Takeuchi, & Ikeda, 2001). The current study observed that
lower achievers chose the right answer option and correct/incorrect option equally for the easier questions, but higher achievers preferred correct/incorrect option to right answer option. This result was consistent with Brand’s study of German, which revealed that generally the subjects preferred correct/incorrect option, and higher achievers chose correct/incorrect option more often (Brandl, 1995). Current study also found that lower achievers depended on the English translation option followed by the grammatical information option for more difficult questions, while the other two groups of higher achievers chose the grammatical information option more often but few chose the English translation option for more difficult questions. The follow-up interview of strategies used shows similar results. More Lower achievers depended on English translation than higher achievers, who depended on grammatical information for guessing the right answers. These results were consistent with the previous studies, i.e., the study of Nagata (1995), which found that grammatical information improved significantly over English translation information to study Japanese particles, and the study of Yoshida et al. (2001) which used Japanese college students in Japan who were learning English as a foreign language (EFL). They concluded that lower EFL achievers heavily depend on the translation of the sentence in Japanese, which was their native language, than higher EFL achievers. Not as many European languages, Japanese language has few similarities to English linguistically, and translation of word by word is often inadequate and does not provide any clues. Therefore, translation in English cannot be a sole clue to understand which particle should be used in a particular sentence. Students need grammatical knowledge such as the role of particles used in the context in addition to the translation information.
Though the total numbers are small, but the type of strategy chosen by the subjects may indicate that while higher achievers appeared to have more meaningful reasons for their guesses than lower achievers when the questions were more difficult (Brandl, 1995; Yoshida et al., 2001). “...many of the lower achievers often simply guessed randomly, trying out as many morphological endings as they could think of” (Brandl, 1995, p. 207). These results may be explained by the fact that better learners paid more attention to the basic grammatical information when they made an error than poor learners (Cohen, 1987), and showed more willingness to engage in the error correction process than poor learners. Good learners may use more types of feedback options more often, and try to find the answers to correct their errors themselves, asking for as little help as possible and avoiding looking up correct answers (Brandl, 1995). While higher achievers may try to use more feedback options available for them to solve the problem themselves, lower achievers do not attempt to engage in problem solving processes for themselves as much as higher achievers. Poor cognitive monitoring and primitive routines that get the job done (Garner, 1990) may be also the possible reasons for poor learners’ fewer choice of feedback options.

**Conclusion**

The study found that the level of student achievement and difficulty level of the task affect the students’ choice of feedback options on computerized closed-exercises of Japanese particles. Higher achievers used more types of options and chose correct/incorrect options over right answers for the first-hit, and used grammatical information option when the task is more difficult. Lower achievers
looked up the right answer more often, and depended on translation in their native language to guess the answer rather than grammatical information.

As a conclusion, high achievers' and low achievers' choice of feedback options should be taken into account for CALL design. Merely providing feedback options to meet students' preference does not promote students' learning. Designs of feedback options of computerized grammar exercise should be re-considered, so that it induces students to use feedback options more effectively. Some degree of program-controlled design along with various types of feedback option may be recommended to improve their grammatical knowledge for lower achievers. For example, grammatical information feedback appears automatically if a student makes an error before using the other feedback option, adding an additional feature of selecting a reason why the answer is correct to eliminate a meaningless guess, asking to solve an extra problem of the same grammatical information to confirm their knowledge, etc. It is also considered that translation in the subjects' native language for grammar exercise of Japanese particles should be either removed from feedback options or combined with the feedback options of grammatical information. The findings of this study also suggest the importance of promoting motivation for error correction/problem solving process for lower achievers.

It should be noted that there is a limitation of this study. First, the number of subjects was small. Secondly, since the computerized exercises developed as an instrument in this study did not monitor the students' choice of the feedback options, data had to be collected by the students' self-report, which was less reliable. Additional research should be conducted with a larger number of subjects, for the other Japanese grammatical topics, for the other various languages, and for the
students of different learning styles, and with more sophisticated CALL materials.

**Note**
1. Sample of the exercises is available upon request.

**References**


