

Lexical Awareness and Retention in Two Types of Intervention Activities

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Abstract

Many SLA researchers have investigated the role of awareness in L2 learning and reported the positive effect of awareness, claiming awareness plays an important role in L2 learning (Schmidt, 1990; Schmidt, 1994; Schmidt, 1995; Schmidt & Frota, 1986; Leow, 1997; Leow, 2000). They also propose that conscious awareness is a necessary and sufficient condition for the second language learning and acquisition. To explore the effect of awareness formed on unknown words on learning, this study focuses on two types of intervention, discourse intervention and isolated sentence intervention, assured to enhance awareness, which eventually affects the retention of the words. Participants were 32 Japanese university students majoring in education. The results showed that there were some positive correlation between awareness of the target words and their retention. Furthermore, this study found the effect of the discourse intervention that leads the participants to high awareness. Consequently, these findings indicate awareness has a high

possibility to facilitate even vocabulary learning, and that the discourse intervention improves learners' awareness.

1. Introduction

Many researchers, assuming that awareness plays an important role in processing L2 data, conducted research to investigate the relationship between awareness and learning (Schmidt, 1990; Schmidt, 1993; Schmidt, 1994; Schmidt, 1995; Schmidt & Frota, 1986; Robinson, 1995; Robinson, 1997; Tomlin & Villa, 1994; Leow, 1997; Leow, 2000). In a case study of an adult Portuguese learner (Schmidt and Frota, 1986), Schmidt analyzed his own acquisition of Portuguese while he stayed in Brazil for five months. Schmidt recorded his noticing in formal learning as well as his interactions with native speakers. By comparing the two sources of data, Schmidt found a significant correspondence between recorded noticing and the forms he actually used. Schmidt and Frota (1986) suggest that noticing alone is not enough for input to become intake. Rather, learners have to be aware of a linguistic form in the input before a subsequent processing occurs. They also propose conscious noticing is necessary and a sufficient condition for the second language acquisition and learning cannot take place without awareness. It is, however, difficult to define awareness, due to its ambiguous concept. In these studies, awareness is one of four categories of consciousness, and defined as "having knowledge of," "knowing rule," or "noticing". Also, Leow (2000), based on Tomlin and Villa (1994), Carr and Curran (1994) and Allport (1988) defined awareness as (a) a show of some behavioral or cognitive change due to the experience of

some cognitive content or external stimulus, (b) a report of being aware of this experience and (c) some forms of metalinguistic description of the underlying rule.

Although the issue of whether awareness is essential for subsequent processing has still remained unclear, Leow (2000) provided an empirical evidence revealing awareness as a substantial role in L2 learning. In his study, he gave the participants a task which is like a cross-word puzzle for enhancing awareness without any explicit descriptions and instructions of a targeted grammar rule. As a result, he discovered those who were aware of the rule improved their performance on a multiple choice test and the written production, while those who were unaware hardly improved their performance. Consequently, he concluded that awareness would promote learning, since there was a significant relationship between them.

Moreover, some researchers have investigated not only the quantity of awareness, but also the quality of awareness (Schmidt, 1990; Leow, 1997, 2000; Rosa & O'Neil, 1999; Qi & Lapkin, 2001; Kuiken & Vedder, 2002). Schmidt (1990) indicated that there are three levels of awareness; awareness at the level of perception, which does not necessarily mean noticing with learner's consciousness, awareness at the level of noticing, which is operated as a verbal report or reference by learner about the surface linguistic structure or feature without any mention of rules, and awareness at the level of understanding, with explicit description of the rule underlying the target structure. Leow (1997) explored this degree of noticing with the data from think-aloud protocols produced by Spanish learners when

they were completing a problem-solving task and concluded there were different levels of noticing, which leads to different performance. That is, noticing with higher level, which called noticing with metalinguistic awareness, has a high possibility to prompt the learners to much intake than simple noticing with lower level.

In the studies of awareness, morpho-syntactic rules are frequently investigated. Date (2003), however, studied lexical awareness. In his study, based on Schmidt (1994), lexical awareness is defined as awareness at the level of noticing; an availability of the verbal report of target words meaning. In his study, the participants were given the target words, and performed an intervention activity in which they worked on the definitions of the target words in English to enhance awareness. Then, they were provided with another interventions, either input intervention where the participants read the sentences including the target words, or output intervention where the participants make the sentences with the target words. The results showed that the participants, who were involved in the second intervention, input or output, achieved higher retention score in the post-test than the participants who did not: the output intervention group worked best in helping retention. Accordingly, he claimed that awareness enhancing activity, especially the output intervention, is effective in increasing lexical retention.

However, there are two methodological problems in Date (2003). One is that Date did not consider a difference in the amount of input between the two types of interventions. That is, his input intervention had a good possibility to

facilitate learner's awareness, while his output intervention, due to no additional input of the target words, hardly provided the learners with the opportunity to facilitate awareness. To solve this problem, this study focused exclusively on the input intervention in two different conditions. The second problem is that his study did not make it clear which awareness, the first awareness enhanced by the pre-intervention or the second awareness improved by the additional intervention, would promote the learners' retention. In his study, the participants who were given the input intervention were provided with two kinds of intervention, i.e., the pre-intervention and the additional intervention to enhance awareness; however, it is not clear which awareness, facilitated either in the pre-intervention or additional intervention, had more effects on the results measured in the post-test. To clear those problems, this study explores three hypotheses. The first two hypotheses concern about effects of awareness on the retention performed in the post-test; the second two hypotheses about the effect of two types of input intervention on the awareness and the retention; the third hypothesis about the effect of language proficiency on the retention.

Hypothesis 1a: High awareness will lead to more retention of the target words than low awareness.

Hypothesis 1b: First awareness will have better effect on the retention than second awareness.

Hypothesis 2a: The discourse intervention is more effective in enhancing second awareness than the isolated sentence intervention.

Hypothesis 2b: The discourse intervention is more effective in retaining the target words than the isolated sentence intervention.

Hypothesis 3: There is a positive correlation in English proficiency to the first and second awareness rates and the retention of the target words.

2. Method

2.1. Participants

Participants were 32 Japanese university students majoring in education. First, they are asked to take G-TELP (General Tests of English Language Proficiency) to measure English proficiency level. According to the scores, the participants were divided into two groups¹: discourse group and isolated sentence group. Second, as the pre-survey, all the participants were asked to answer the questionnaire to confirm what target words they did not know. Third, the first intervention was conducted to enhance the first awareness, i.e., understanding of the meanings of words which they did not know. In this intervention, they were given the definitions of the words in English, and asked to answer their meanings in Japanese without any help. Then, as the second intervention, the participants in the discourse group were given the intervention in which they read eight newspaper articles including the target words, guessed the meanings of the target words from the passages and answered in Japanese. On the other hand, the participants in the isolated sentence group were given the intervention in which they were given simple isolated sentences², were asked to guess the meaning of the target words and answer

in Japanese. Both interventions were to enhance second awareness of the participants. During the interventions, they were able to see the sheets with the definitions of the target words given at the first intervention. Five days after the interventions, all the participants were given the post-test which asked the meanings of the target words without any help.

2.2. Target Words

To select 30 target words, this study used two corpuses: the British National Corpus, which is the large-scale corpus used worldwide, and JACET 8000, a list of 8000 basic words deriving from the linguistic data reflecting the present Japanese educational condition (JACET, 2003). We had to be deliberate in selecting the target words, since they should be unknown to the participants. This study needed to set up two standards to adopt the target words: below 350 instances in the British National Corpus when a target word is searched, and level 6 or higher in JACET 8000 (see Appendix). In addition, some target words, which the pre-survey showed the participants happened to know, were excluded individually from a subsequent data process.

3. Results

The awareness rate in this study was measured by the number of the words the participants became aware of at the first or the second intervention; the retention rate was measured by the number of the words they retained at the post-test. The results are showed in Table 1.

Table 1. Awareness and Retention Rates

First Awareness	Second Awareness	Retention
39.8	45.3	15.6

3.1. Hypothesis 1a

To prove hypothesis 1a, one-way ANOVA was conducted to compare the retention rate between high and low awareness group. In this study, the high awareness group was those who achieved ten or more percents above the average score in the first and second intervention, while the low awareness group was those who had ten or more points below the average score in the first and second intervention. Table 2 showed there was a significant difference between them ($F[1,17] = 5.467, p < .05$), showing that high awareness will lead to more retention of the target words.

Table 2. Retention Rates for High and Low Awareness Group

	Retention
High Aware	25.9
Low Aware	10.8

3.2. Hypothesis 1b

To prove which awareness, first or second awareness, would be more important for their retention, Analysis of Pearson's correlation was performed to consider the relationship between the first awareness rate and the retention rate, and the second awareness rate and the retention rate. As Table 3 shows, there was a fairly positive

correlation ($r = .552$) between the first awareness rate and the retention rate, as well as between the second awareness rate and the retention rate ($r = .464$). This shows that both first and second awareness plays an important role in retaining the target words.

Table 3. Correlation between Awareness Rate and Retention Rate

	<i>R</i>
	Retention
First Awareness	.552*
Second Awareness	.464*

* $p < .05$

Table 3 shows that both the first and second awareness has significant effects on lexical retention. By comparing the responses at the post-test with the responses at the first and the second interventions, this study found three types of response patterns across the sessions (see Table 4). Among 153 identical responses, there were 16 cases of A-B-A sequence that have two identical responses in the first intervention and the post-test, and 30 cases of A-B-B sequence which have two identical responses in the second intervention and in the post-test. 107 cases of responses were thoroughly identical and retained until the post-test. This shows that there is a substantial effect of first awareness on the lexical retention.

Table 4. The Process of Responses across the Sessions

First intervention	Second intervention	Post-test	# of responses (<i>n</i> =153)
A	B	A	16
A	B	B	30
A	A	A	107

Note. ‘A’ and ‘B’ are the codes used to show how the responses change in each session. The different codes, e.g., ‘A’ and ‘B,’ show that the answers change from one session to another; the same codes, e.g., ‘A’ and ‘A’, show that both are identical but not necessary correct.

3.3. Hypothesis 2a

Table 5. The Second Awareness Rates in Each Group

	Second Awareness
Discourse Group	47.2
Isolated Sentence Group	43.3

As to the second awareness, however, there was no significant difference between the discourse and the isolated sentence groups, ($F [1, 31] = 0.376$, n.s.). The further analysis shows some differences between the scores at the first and the second interventions. As shown in Figure 1, twelve participants in the discourse group improved from first awareness to second awareness, while only two failed; ten in the isolated sentence group gained scores but five failed. This suggests that although not shown statistically,

the discourse intervention tends to be more effective in raising awareness.

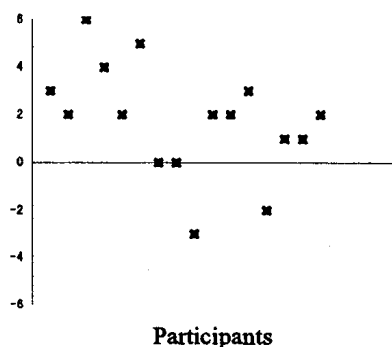


Figure 1
Differences between the Scores at the First and the Second Interventions in the Discourse

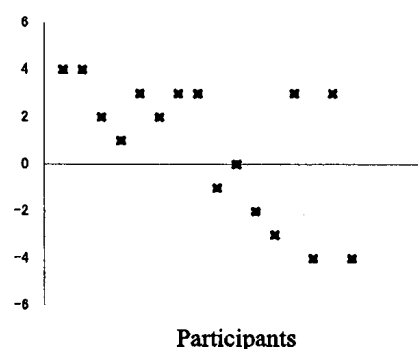


Figure 2
Differences between the Scores at the First and the Second Interventions in the Isolated Sentence Group

3.4. Hypothesis 2b

Table 6. The Retention Rates in Each Group

	Retention
Discourse Group	15.4
Isolated Sentence Group	16.9

This study expected the discourse group retain more words due to the effect of textual information exclusively given to them. However, the difference between the two groups was not significant ($F [1, 31] = 0.0790, n.s.$). Accordingly, this study was not able to prove the efficacy of the discourse intervention in lexical retention of the target words.

3.5. Hypothesis 3

Analysis of Pearson's correlation was performed to consider participant's proficiency in relation to the first awareness, the second awareness and retention. The results showed that there was a positive correlation between the proficiency and first awareness rate ($r = .590$), as well as a significant positive correlation between the proficiency and second awareness rate ($r = .703$). However, there was no positive correlation between the proficiency and the retention ($r = .210$).

Table 7. Correlation of Proficiency to First Awareness, Second Awareness and Retention

	<i>r</i>
First Awareness	.590*
Second Awareness	.703*
Retention	.210

* $p < .05$

4. Discussion

As for the first hypothesis, the results show that there was a positive effect of awareness on lexical retention, indicating that awareness plays an important role in L2 vocabulary learning. Moreover, this study found a substantial effect of first awareness on the lexical retention, suggesting that once awareness is made, it is difficult to change or form a new one. Consequently, first awareness is significantly important in vocabulary learning.

As for Hypothesis 2a, the result shows that there was no significant difference in the second awareness rates between the discourse and the isolated sentence groups. The

further analysis, however, showed that more participants improve their awareness in the discourse intervention. Thus, the discourse intervention is pedagogically important in that it helps learners build their vocabulary, simultaneously providing them with the opportunity to improve their reading skills. As for hypothesis 2b, there was no significant difference in the retention rate between the discourse group and the isolated sentence group. There may be two factors that affected this result. One is that this study did not ask them to try to retain the target words during each intervention, which might cause both groups to result in low retention rates. The other is that the number of the target words might be too overwhelming for them. Date (2003) used 12 target words, while this study used 30 target words.

As for the third hypothesis, this study found the relative or significant positive correlation between the proficiency and the awareness. However, such correlation is not seen between the proficiency and the retention. This may be again due to the two factors: instructions that did not set a specific goal in the interventions, and a large number of target words.

5. Conclusion

This study investigated the role that awareness plays in vocabulary learning, and discovered three important findings. This study suggests that awareness has a substantial effect in vocabulary learning since the high awareness group tends to retain more words than low awareness group. Moreover, this study found the importance of the first awareness as well as the good effect of the

discourse intervention in raising awareness. Although this study did not research whether the discourse intervention could improve learner's reading skill, this intervention may be helpful not only to build vocabulary but also to provide the opportunity to improve reading skills because of the exposure to a lot of passages.

While it is believed that proficient learners seem to retain more words in general, this study failed to show the correlation between the proficiency and the lexical retention. This may be due to a small number of the participants and a large number of the target words beyond the participants' proficiency levels. We hope that further research will sample large numbers of participants as well as various levels of language proficiency.

Notes

1. Each group was formed to have almost same average and standard deviation: 210.4 and 33.3 in the discourse group and 208.2 and 29.3 in the isolated sentence group respectively.
2. Isolated sentences used in this group were extracted from the texts that were given to the discourse group.

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Appendix

Target Words

target word	JACET8000 (Frequency level)	BNC (# of instances)
ambivalence	-	241
ambush	8	261
assailant	-	130
careen	-	3
Celsius	-	144
cleric	-	126
conspire	-	61
dehydration	-	121
detain	6	148
expedience	-	6
hyperbole	-	89
imam	-	91
ingratitude	-	54
lament	8	173
laureate	-	68
loot	-	148
Meteorologist	-	14
pamper	-	31
prod	-	108