<table>
<thead>
<tr>
<th>項目</th>
<th>内容</th>
</tr>
</thead>
<tbody>
<tr>
<td>タイトル</td>
<td>「図像表示の利用が第二言語聴解を高める効果」</td>
</tr>
<tr>
<td>著者</td>
<td>大川原伸次</td>
</tr>
<tr>
<td>発行日</td>
<td>1996-07-31</td>
</tr>
<tr>
<td>URL</td>
<td><a href="http://hdl.handle.net/10069/15383">http://hdl.handle.net/10069/15383</a></td>
</tr>
</tbody>
</table>

NAOSITE: Nagasaki university’s Academic Output SITE
The Effects of Using a Picture As an Advance Organizer on Second Language Listening Comprehension

Shinji Ogasawara

Abstract

This research compared students' listening comprehension and retention of information in two conditions using a picture. The subjects were 95 university students, divided into two conditions. In the pre-picture condition, students listened to the passage after seeing a picture related to it. In the post-picture condition, students listened to the same passage before seeing the same picture. Twenty-two multiple-choice questions were developed to assess different types of incidental learning. Each question was varied along two dimensions. In the question focus dimension, half the questions were related to illustrated information, while the other half related to unillustrated information. In the question type dimension, 12 questions were factual and 10 were inferential. The questions were administered as a retention test as well as a post-test. Results indicated that the students in the pre-picture condition significantly improved comprehension of inferential and illustrated information. On the other hand, the students in the post-picture condition showed higher retention of the inferential and illustrated information.

1. Introduction

Current studies stress the importance of providing the learner with background knowledge in reading and listening practice. Bransford and Johnson (1972) report that relevant contextual knowledge is a prerequisite for comprehension in first language practice. Based on this study, some studies of second language practice have been done especially in the field of second language reading comprehension.

Most of these studies have reported the effects of background knowledge. According to Schmidt-Rinehart (1994), background knowledge falls into cultural knowledge, technical knowledge, religious knowledge, vocabulary
knowledge, topic familiarity and contextual visuals. Pictures are contextual visuals which produce topic familiarity. However, few empirical studies of pictures have been conducted on the relationship between background knowledge and second language listening comprehension. As Anderson and Lynch (1988) and Rost (1990) emphasize, the listening process is not passive but active, and is constructive activity. Their theories underline background knowledge as an important component of the listening process. To put it another way, background knowledge helps the second language listening comprehension process.

A number of studies in first language listening comprehension practice have been done, and most of them report that background knowledge information is critical in the listening process. Though it is dangerous to regard the second language listening process as the same as the first language listening process, the second language listening process is, in a sense, similar to first language listening. This is because listeners have imperfect control of the linguistic code (Long, 1990), i.e. they cannot control the speed of the speaker, etc. This means that second language listening comprehension can be improved by providing second language learners with a contextualized picture as an advance organizer.

The purpose of this paper is threefold: (1) to review research on the effects of contextualized visuals, or pictures, as advance organizers, (2) to present some theories to support background knowledge, and (3) to report the results of a preliminary study to clarify the effects of a pre-picture (advance organizer) in the second language listening comprehension process, compared with the effects of a post-picture. Specifically, an experiment in what kind of information pre-pictures aid second language learners will be conducted. The results will be analyzed by using multiple-choice questions, divided into question type dimensions and question focus dimensions.

2. Research Review on the Effects of an Advance Organizer

Much ink has been spent on the importance of using background information in learning unfamiliar passages in order to improve comprehension. Background information is sometimes given as an advance organizer. Advance organizers can be given in a variety of ways. Herron (1994) listed as effective
advance organizers, pictures, verbal descriptions, key vocabulary, pre-questioning techniques, and cultural background cues. Among them, seeing a picture before reading or listening is most useful and effective. Mueller (1980) regards the visuals as advance organizers to activate relevant aspects of stored memory and to provide framework. As far as we know, Ausubel (1961) is the first researcher to stress the need of using advance organizers. He also suggested that the retention of the information in unfamiliar passages would be enhanced with the help of advance organizers.

Empirical studies in both first and second language learning practice have been reported. Levie and Lentz (1980) reviewed the results of 55 experiments comparing learning from illustrated text with learning from text alone. They support the use of a picture as an advance organizer before reading texts. Omaggio (1979) studied the effects of a general picture providing cues to the nature of the story if it is presented before reading a passage in second language comprehension. These studies show that background knowledge produced by seeing a picture beforehand is generally supported, though there are several studies which are against them. For example, there exist several studies which support the use of pictures after reading the passage (Brody and Legenza 1980; Hojo 1989; Hojo 1991).

Background knowledge plays a more crucial role in the listening comprehension of an unfamiliar passage. Levin and Lesgold (1978) support the use of pictures and state that pictures can provide a context within which the passage information can be more organized. They also stress that using pictures in listening comprehension is much more important than in reading comprehension. Unlike reading comprehension, where readers can be exposed to the passage as they like, the exposure of the listeners to the listening passage is very limited. Once a sentence has been spoken, it is physically gone. So pictures as advance organizers have the ability to help the listeners' listening process and facilitate their comprehension.

The effects of pictures as advance organizers can be applied to second language listening comprehension. Several empirical studies have explored the relationship between visuals as advance organizers in second language listening comprehension. Mueller (1980) investigated the effects of visual contextual cues used as script activators on second language listening comprehension. He
points out that the locus of contextual visuals has great influence on the students' comprehension, stating that seeing the visual before hearing the passage was more effective on the free recall measure than seeing it after listening to the passage. Ogasawara (1995 b) conducted a study to determine if the location and type of picture used in second language listening practice would affect students' comprehension. His results showed that students who saw a relevant picture before listening to the unfamiliar passage scored higher, though there was statistically no significant difference between the pre-picture group and the post-picture group. These results show the effectiveness of visuals as advance organizers.

Recently, research on using advance organizers has been conducted with videos, which combine both visual and auditory learning (Ogasawara 1993; Herron 1994; Herron, Hanley and Cole 1995). Ogasawara (1993) used videos as advance organizers to help students comprehend the unfamiliar listening passage. He reported that there existed the tendency for students' improving comprehension of the listening passage if they saw the videos before listening to the passage. Herron (1994) tried to determine if student listening comprehension of a foreign language video would be facilitated by the use of an advance organizer. The advance organizer used in her study was not pictures but several short sentences related to the contents of the video. Results favored the Advance Organizer plus Video condition over the Video Only condition. Moreover, based on the results of Herron (1994), Herron, Hanley and Cole (1995) compared student retention of information in foreign language videos in two types of advance organizers. They compared the Description Only advance organizer condition with the Description plus Pictures advance organizer condition. Their results indicated the visual support in the Description plus Pictures condition significantly improved comprehension of the video. They conclude that listening to the video utterance is facilitated by the context which visual advance organizers provide.

Finally, it should be pointed out that advance organizers do not always work well in language learning. As already mentioned, there are some studies which support better comprehension by using post-pictures rather than pre-pictures. Frase (1967) examined the effects of the question positions when students read a passage. He suggests that both pre-questions and post-questions may
facilitate learning, but generally post-questions have a greater effect on learning than pre-questions. Brody and Legenza (1980), based on Frase's result, expanded their study to examine the effects of the location or type of a picture in reading comprehension. Contrary to most people's expectations, they reported that generally subjects who saw a picture after reading the passage scored higher than those who saw it before reading. Hojo (1989, 1991) and Ogasawara (1995 a), which dealt with second language reading or listening comprehension, have the same tendency as the results of Brody and Legenza (1980). The pictures used in the studies above seemed to work as a synthesizer, which leads learners to a general backward or review process. Pictures can have two functions, advance organizers and synthesizers. Omaggio (1979) reported that more attention should be paid to the kinds of visual aids used as advance organizers. She reported that the multiple context visual condition was not so effective as an advance organizer and concluded that the best visual context is a general picture providing cues to the story, recommending a picture giving cues of the beginning part of the learning passage.

Having reviewed briefly the instructive research for the present study, let us now turn to the theoretical background and discuss, referring to the results in this chapter.

3. Theoretical Background

Recently, light has been shed on schema theory and second language learning comprehension. Every text has its own conventional structure and the knowledge of these conventions helps listeners or readers both in comprehending the text and in recalling it later. Carrell (1983, 1987) examined the reading process, using learners of English as a second language as subjects. Her results indicate that ESL learners use schemata at times in the reading comprehension process, though they have the tendency to rely more on linguistic cues than background knowledge.

According to Anderson, Pichert and Shirey (1979), there are two types of schemata. One is called formal schemata, which relates to the organizational structure of a text. The other is named content schemata, which pertains to the specific domain of a text. Carrell (1987) emphasizes that content schemata
affect second language reading comprehension much more than formal schemata.

Although there are many studies for first language and second language reading, or first language listening, few studies have been done on second language listening comprehension in the light of schema theory. Among them, Mueller (1980) and Markham and Latham (1987) should not be overlooked. Mueller's results (which are mentioned in the previous chapter) showed that visual contextual cues enhanced second language learners' comprehension in listening. It should be noted that the contextual cues given as script activators produced high comprehension. This means background knowledge, or more specifically called content schema, should be given before listening to the passage. Schemata help listening comprehension by giving a context and filling in missing information. Markham and Latham (1987) examined the influence of religious background knowledge on second language listening comprehension. The subjects in their study listened to passages about prayer rituals of Islam and Christianity. The results indicated that religious background knowledge had a positive effect on listening comprehension. Specifically, students comprehended and recalled more information with less misunderstanding of the passages if they had the background knowledge. Obviously, students who did not have the useful religious schemata had poorer comprehension of the passage. The results of the studies above indicate that schemata should be given or produced before listening to the passage.

One of the most handy ways to have schemata is seeing a picture that is related to the content of the learning materials. More attention should be paid to not only comprehension but also to recall. In most studies which have been discussed in this paper, recall or recognition measures are adopted to examine the students' comprehension. To put it another way, subjects are not permitted to take notes while listening to the passage, so they are required to memorize the contents they comprehend while they listen to the whole passage. Presenting pictures helps memory retention.

In the field of educational psychology, many studies regarding the presentation of pictures with listening passages have been conducted and have reported the supremacy of recall under these conditions (Guttmann, Levin and Pressley, 1977; Bender and Levin, 1978). Levin, Bender and Lesgold (1976) compared the
effects of the prose plus picture condition with the prose-only condition and
the prose-repetition condition. The results indicated that while naturally the
repetition condition was much better than the condition where the prose was
heard only once, recall in the prose plus picture condition was superior to the
prose-repetition condition. Based on these results, Ogasawara (1995a) ex-
panded the study to second language listening comprehension and conducted
the same kind of experiment by using recognition measures. His results
showed that the condition where the passage was heard once with the help of
pictures scored as high as the condition where the passage was heard twice.

These positive effects of picture presentation can be attributed to dual coding
which is proposed by Paivio (1969). In the prose plus picture condition, infor-
mation is encoded both verbally and visually (Small, Lovett and Scher, 1993).
Information is stored in two separate but interconnected modes, which leads
students to recall more correctly. Most of the studies conducted in the 70’s and
80’s have shown the facilitative effects of memory for illustrated information.
However, whether or not the dual coding condition works positively for
unillustrated text information has been inconclusive. But up to now, several
studies have provided evidence that pictures can ease the recall of unillustrated
prose information. Dean and Enemoh (1983) found that university students’
memory of a difficult reading passage concerning the formation of a meander
was facilitated if they saw a map-like organizer before reading the passage.
Though the organizer did not present the process of the formation of a mean-
der, it facilitated recall of the unillustrated passage. At any rate, this question
should be investigated further. Above all, they concluded that relevant context-
tual knowledge is necessary for prose comprehension, and a schema once en-
coded may provide an interpretative framework for comprehending and
remembering connected discourse (Dean and Enemon, 1983).

The arguments mentioned in chapters two and three serve as a guideline for
this experiment. Specifically, how well pictures as advance organizers work in
comparison with pictures presented after listening to the passage is examined.
Moreover, in what kind of information picture using is most effective and how
well the students retain the information they comprehended are also to be in-
vestigated.
4. Method

(1) Purpose

The purpose of this study was to determine how much a picture as an advance organizer improves the listening comprehension of second language learners. Four primary questions were addressed:

1. Do ESL (EFL) listeners comprehend illustrated information better when they see a picture related to the passage as an advance organizer?
2. Do ESL (EFL) listeners comprehend unillustrated information better when they see a picture related to the passage as an advance organizer?
3. Do ESL (EFL) listeners respond to factual and inferential questions better when they see a picture related to the passage as an advance organizer?
4. Is there any difference in memory retention between the pre-picture group and the post-picture group?

(2) Subjects

Subjects for this study were 95 first-year students in Nagasaki University’s Faculty of Liberal Arts. They were either the students of the Faculty of Education or the students of the Faculty of Technology. They were randomly assigned to two condition groups (Table 1). JACET Listening Comprehension Test Form A was administered as a pretest two weeks before this study. Table 2 shows the means and the standard deviations of the scores on the test. A t-test for independent-measures experiment was performed on the scores. Results showed that there was no statistically significant difference between the two groups. So homogeneity between the two groups was confirmed.

<table>
<thead>
<tr>
<th>Table 1. Student’s Characteristics and Range of the Pre-Test.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>University Classification</td>
</tr>
<tr>
<td>Faculty of Education</td>
</tr>
<tr>
<td>Faculty of Technology</td>
</tr>
</tbody>
</table>
Table 2. Means and Standard Deviations for the Pre-Test

<table>
<thead>
<tr>
<th></th>
<th>Group A</th>
<th>Group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range of the Scores</td>
<td>$-20 \leq X \leq 66$</td>
<td>$-32 \leq X \leq 80$</td>
</tr>
<tr>
<td>Mean</td>
<td>22.73469</td>
<td>21.47826</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>19.69219</td>
<td>20.48060</td>
</tr>
<tr>
<td>n</td>
<td>49</td>
<td>46</td>
</tr>
<tr>
<td>df</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>0.304820 (n. s.)</td>
<td></td>
</tr>
<tr>
<td>p</td>
<td>0.761184</td>
<td></td>
</tr>
</tbody>
</table>

(3) Materials

The listening material used in this study consisted of a 200-word passage entitled "Covered Wagon" which was adapted from *Right Reading* (Curry, 1990). The material was recorded by an American with a reading speed of 130 wpm. A picture related to the listening passage was presented to the students in both group A and group B (Appendix).

In an effort to discount the possibility that subjects could answer the questions based on the information derived from the picture itself, a preliminary experiment was conducted with 45 students (none of whom participated in this experiment). The 45 students were required to answer questions by just looking at the drawing of a covered wagon and guessing the context. To make all the questions based on listening information, those questions that were easily answered by using the picture alone were screened out and replaced by newer, more pertinent questions. Therefore, the questions that were used in this experiment were all based on listening information.

As a result, 22 multiple-choice questions, with four choices for each question, were developed to assess incidental learning. Each question could be varied along two dimensions. In the question type dimension, 12 questions were factual and 10 were inferential. In the question focus dimension, half the questions were related to the illustrated information, while the other half covered unillustrated information. All the questions were written in Japanese, ensuring total understanding and effectiveness of this recognition measure.
(4) Procedure

Beforehand it was confirmed that all the subjects had no knowledge of the contents of this expository prose information. The subjects were told before testing that they should listen carefully to the recorded story and memorize it because they would be asked many multiple-choice questions in Japanese about the prose. Naturally, to measure their comprehension and recall correctly, they were not permitted to take notes. Students in Group A saw the picture before listening to the passage. On the other hand, students in Group B saw the picture just after listening to the passage. Students in both groups saw the picture 20 seconds. After they listened to the passage twice, a post-test was given with an interval of 20 seconds (Table 3). One week later, they took a retention test. They were not told that they would take a retention test, so they would not intentionally try to memorize the contents of the expository prose information. The items of the retention test were identical with those of the post-test, though the orders of the items and questions were shuffled randomly.

<table>
<thead>
<tr>
<th>GROUP</th>
<th>CONDITION and PROCEDURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A</td>
<td>seeing a picture ⇒ listening twice ⇒ taking a post-test</td>
</tr>
<tr>
<td>Group B</td>
<td>listening twice ⇒ seeing a picture ⇒ taking a post-test</td>
</tr>
</tbody>
</table>

4. Results

(1) Results of the Post-Test

Table 4 shows the means and the standard deviations of scores for Group A and Group B. A t-test for independent-measures experiment was performed. Results indicated that the location of pictures was an important variable. Seeing the picture before listening to the passage seemed to be more effective than seeing it after listening to the passage. Generally, students scored higher in all four analyses. On the other hand, it should be noted that the effects of seeing a picture as an advance organizer appeared only in the inferential and the illustrated questions (Table 5). The schemata produced by this picture helped
The Effects of Using a Picture As an Advance Organizer

the students comprehend better the inferential and the illustrated information, which can easily be understood both aurally and visually. However, there was no difference between the two groups as to the comprehension of the unillustrated information as well as the factual information. Unlike Dean and Enemoh (1983), the picture as an advance organizer did not work well in comparison with the post-picture which might function as a synthesizer.

Table 4. Means and Standard Deviations of Correct Responses by Question Type Dimensions.

<table>
<thead>
<tr>
<th></th>
<th>Pre-picture (Group A)</th>
<th>Post-Picture (Group B)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td>Factual^a</td>
<td>6.28671 (2.17954)</td>
<td>5.73913 (1.94862)</td>
</tr>
<tr>
<td>Inferential^b</td>
<td>7.53061 (1.55593)</td>
<td>6.84783 (1.39789)</td>
</tr>
<tr>
<td>Illustrated^c</td>
<td>6.46939 (1.64699)</td>
<td>5.60870 (1.63949)</td>
</tr>
<tr>
<td>Unillustrated^c</td>
<td>7.34694 (1.56193)</td>
<td>7.15217 (1.59119)</td>
</tr>
</tbody>
</table>

^a 12 questions ^b 10 questions ^c 11 questions

Table 5. The Results of T-Tests

<table>
<thead>
<tr>
<th></th>
<th>t-value</th>
<th>df</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factual</td>
<td>1.285577</td>
<td>93</td>
<td>0.201783</td>
</tr>
<tr>
<td>Inferential</td>
<td>2.244804*</td>
<td>93</td>
<td>0.027151</td>
</tr>
<tr>
<td>Illustrated</td>
<td>2.551107*</td>
<td>93</td>
<td>0.012370</td>
</tr>
<tr>
<td>Unillustrated</td>
<td>0.601903</td>
<td>93</td>
<td>0.548703</td>
</tr>
</tbody>
</table>

*p<.05

(2) Results of the Retention Test

Table 6 shows the means and the standard deviations of scores for Group A and Group B. Table 7 shows the means of the post-test and the retention test and its difference of loss. A matched t-test for related samples was conducted in all four analyses. The students in Group A lost the information of the four analyses significantly at the .05 probability level, whereas the students in Group B, who were presented a picture after listening to the passage, had high memory retention for the inferential and illustrated information. They forgot the factual and the unillustrated information significantly at the .05 probabil-
ity level, but they retained information of the inferential and the illustrated contents correctly at the level of their comprehension when they listened to the passage one week ago.

Table 6. Means and Standard Deviations of Correct Responses by Question Type Dimensions.

<table>
<thead>
<tr>
<th></th>
<th>Pre-picture (Group A)</th>
<th>Post-Picture (Group B)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td>Factual^A</td>
<td>5.42857 (1.95789)</td>
<td>4.78261 (1.83682)</td>
</tr>
<tr>
<td>Inferential^B</td>
<td>6.69388 (1.67337)</td>
<td>6.84783 (1.33279)</td>
</tr>
<tr>
<td>Illustrated^C</td>
<td>5.38776 (1.72984)</td>
<td>5.13044 (1.45463)</td>
</tr>
<tr>
<td>Unillustrated^C</td>
<td>6.75510 (1.68981)</td>
<td>6.45652 (1.73470)</td>
</tr>
</tbody>
</table>

^A 12 questions  ^B 10 questions  ^C 11 questions

Table 7. Means for the Post-Test and the Retention Test and Losses

<table>
<thead>
<tr>
<th></th>
<th>Post-Test</th>
<th>Retention-Test</th>
<th>difference</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-picture Group A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factual</td>
<td>6.28671</td>
<td>5.42857</td>
<td>-0.85714</td>
<td>3.0317*</td>
</tr>
<tr>
<td>Inferential</td>
<td>7.53061</td>
<td>6.69388</td>
<td>-0.83674</td>
<td>4.0044*</td>
</tr>
<tr>
<td>Illustrated</td>
<td>6.46939</td>
<td>5.38776</td>
<td>-1.08163</td>
<td>4.9639*</td>
</tr>
<tr>
<td>Unillustrated</td>
<td>7.34694</td>
<td>6.75510</td>
<td>-0.59184</td>
<td>2.2992*</td>
</tr>
<tr>
<td>Post-picture Group B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factual</td>
<td>5.73913</td>
<td>4.78261</td>
<td>-0.95652</td>
<td>2.8455*</td>
</tr>
<tr>
<td>Inferential</td>
<td>6.84783</td>
<td>6.84783</td>
<td>0.00000</td>
<td>0.0000 NS</td>
</tr>
<tr>
<td>Illustrated</td>
<td>5.60870</td>
<td>5.13044</td>
<td>-0.47826</td>
<td>1.7018 NS</td>
</tr>
<tr>
<td>Unillustrated</td>
<td>7.15217</td>
<td>6.45652</td>
<td>-0.69565</td>
<td>2.8453*</td>
</tr>
</tbody>
</table>

Group A df=48, Group B df=45, *p<.05

5. Discussion

The results of the post-test replicate many studies which show that providing background information as an advance organizer facilitates the comprehension and the immediate recall of learning materials. It is concluded that appropriate advance organizers help students to construct the relevant schemata necessary for the comprehension of the information contained in the
learning materials. To put it another way, the pictures or the visual aids presented in the studies above provide students with effective organizational schemata. However, there are some studies which support the effects of pictures after listening to or reading the learning passage. We should consider the reasons for the contradictory studies, specifically, what type of pictures function as advance organizers.

The studies favoring post-pictures seemed to show pictures working as synthesizers (Brody and Legenza, 1980; Hojo, 1989; Hojo, 1991; Ogasawara, 1995a). As Brody and Legenza (1980) mention, post-pictures can result in a general backward or review process, or called more specifically, backward-processing. We should not neglect the functions of pictures as synthesizers. But why these pictures did not work as effective advance organizers is most important. One of the reasons is that most of them dealt not with listening comprehension but reading comprehension (Brody and Legenza, 1980; Hojo, 1989; Hojo, 1991). Unlike listening comprehension, reading practice allows learners to read the learning passages many times. For example, the subjects of Brody and Legenza (1980) were allowed to read each page of the booklet of the 1200-word passage as long as they wanted. The junior high school students of Hojo (1989 and 1991) were given enough time for the 300-word passage in English. The reading time of the former study was 25 minutes and that of the latter 20 minutes. This fact means that students enhanced their comprehension by reading as much as they wanted, which did not mean that the results were the effects of the advance organizers.

Another determining factor is that what kind of information the pictures show is important. As mentioned already, in studies where the pictures favored advance organizers producing background knowledge, the schemata were unfamiliar to the learners. On the other hand, pictures used in Hojo (1989, 1991) are a train and a shop in the train, and two pictures used in Ogasawara (1995a) are a man in old-fashioned air pilot clothes and a plane soaring over a field. The schemata produced by these pictures seemed to be rather familiar to the students. Or rather, students comprehended the learning contents without these pictures. These pictures served as synthesizers, helping students with recall and memory retention.

Omaggio (1979), based on her empirical research, states that pictorial aids
Shinji Ogasawara
do not always serve as advance organizers. She states that the best visual con-
text is the prethematic context, more specifically, a general picture providing
cues to the nature of the story. The pictures of the studies favoring advance
organizers seemed to meet this requirement (Mueller, 1980; Dean and Enem-
loh, 1983; Ogasawara 1995 b).

More importantly, the length of the learning materials is related to the ef-
facts of the advance organizers. In concert with Peeck and Jans (1987), it may
be argued that the benefits of pictures as advance organizers have much to do
with the appropriate length of the learning materials. Mueller (1980), Dean
and Enemoh (1983) and Ogasawara (1995 b) used a 300-word listening pas-
sage, a 262-word reading passage and a 200-word listening passage, respec-
tively. These can be regarded as reasonable and appropriate lengths for
learning materials for their students’ levels. These aspects should be investi-
gated further.

Next, we should pay attention to the fact that the effects of advance orga-
nizers did not appear in the factual and the unillustrated information. The fac-
tual questions, in which numbers, dates or names of places, etc. are asked,
have much to do with superficial structures or forms, while the inferential
questions have much to do with the deep structures or meanings, rather than
the superficial structures. Comprehension in the inferential information is in-
terpretation of the deep structures or meanings, underlying the sentences. In
simpler terms, students comprehend and recall the deep structure by para-
phrasing by themselves and they do not necessarily memorize or recall the sur-
face structure forms. This means the schemata produced by the pictures as
advance organizers help students to paraphrase the sentences they hear, acti-
vating the dual coding effect.

On the other hand, this study failed to demonstrate a facilitatory effect of
advance organizers on comprehension and recall of unillustrated information.
As noted in chapters two and three, research investigating the effects of pic-
tures for unillustrated information is inconclusive. Therefore, we cannot con-
clude the effects for unillustrated information in this study. But we can
reconsider the type of tests used to examine learners’ comprehension and re-
call. In most studies dealing with second language learning, recognition meas-
ures were conducted to avoid leading to the floor effect (Hojo, 1989; Hojo,
The Effects of Using a Picture As an Advance Organizer

1991; Ogasawara, 1995 a ; Ogasawara 1995 b). Long (1990), who shows the importance of schemata in comprehension of second language listening passages, also indicated that no significant differences were found for the recognition measure, though highly significant differences were found for the recall measure. This is because of the level of difficulty. Recognition measures are rather less difficult than recall measures because subjects can enhance their scores with the possibility of correct guessing. By using both measures like Long (1990), more reliable results emerge.

Finally, attention should also be paid to the results of the retention test. In this study, the pictures used in the primary position generally have effect as advance organizers. But post-pictures showed higher memory retention after one week. Kiji (1993) mentions that few studies have so far been made at examining the effects of pictures on memory retention in second language learning. Kiji (1993) states that learning with the help of pictures is effective in long term memory retention. This study shows that students presented with a post-picture remembered the inferential and illustrated information correctly. It should be noted that post-pictures seem to be less effective than pre-pictures, but presenting pictures after listening to the passage has some probability of helping students retain the contents of the information they hear.

6. Conclusion

Background information is critical in second language comprehension and its recall. The advance organizer technique assessed in this study would be effective for second language listening practice. Once schemata are encoded, they can provide an interpretative framework to comprehend and recall the listening passage. This study is a primary study to clarify the effects of advance organizers to some extent, but future research is needed to clarify the processes of comprehension and recall in second language learning practice on the basis of schema theory.
References


The Effects of Using a Picture As an Advance Organizer

Learning 37, 157-170.
Ogasawara, S. (1995a) Using Pictures to Facilitate EFL Students’ Comprehension and Recall of Unillustrated Prose Information in Listening Comprehension Practice. Bulletin of the Faculty of Liberal Arts, Nagasaki University, Humanities 35 (Special Issue) 367-381.

(Received April 30, 1996)

Appendix