PAC3 at JALT 2001 Conference Proceedings



International Conference Centre Kitakyushu JAPAN November 22–25, 2001

Effective Use of DVD Movies in the Classroom in Terms of Modality Effects on L2 Listening Skill Improvement

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Concerning the effective combination of L1/L2 sound and subtitles in movie-viewing, previous research findings are inconclusive. To unconfound variables such as the English proficiency of subjects and long-term effects, this study investigates 3 research questions: (1) Which mode more efficiently improves listening comprehension skills of Japanese advanced EFL students after 15 weeks; standard or bi-modal? (2) Standard or reversed with intermediate learners? (3) Does caption reading prevent other information from being processed? The results suggest that standard/bi-modal and standard/ reversed modes in individual experiments work as effectively as each other, yielding no significant differences between the groups. Other findings include: (1) micro-level listening skills are enhanced by standard mode, while macro-level listening is improved by bi-modal, (2) Japanese sound input leaves more space in the language processing system for L2 than Japanese captions, and (3) captions do not impede learners from parsing other on-screen visual information.

[要旨]日本人英語学習者が長期的に見てリスニングカを付けるには、DVD映画提示時にどのようなモードを組み合わせるのが有用であるのか検討された。上級者にとっては、スタンダードモード(L2音声とL1字幕)・バイモーダル(音声も字幕もL2)ともにリスニングカ向上に適しているが、

前者は短文レベル、後者は比較的長い英文の聞き取りに効 果があることや、中級者に関して、リバースモード(L1音 声とL2字幕)・スタンダードモード間に差はなく共に有効で あることが判明した。音声と字幕の組み合わせにおける母語 の影響に関して、日本語字幕を提示するよりも日本語音声を 提示した方が、学習者は英語の音声や字幕に注意を払えるよ うである。また、字幕が何語であれ、字幕を読むことで他の 映像情報の処理に障害がでないこともわかった。

ince the introduction of closed-captioned movies and news programs into ESL/EFL classrooms, research has been conducted to investigate which combination of sound and subtitles in L1/L2 most effectively helps L2 learners understand. This trend has accelerated with the arrival of DVD movies, which allow practitioners to select different combinations of modes in a much easier fashion. The research findings, however, are indeterminate. The effectiveness of the bi-modal (L2 sound + L2 subtitles) presentation over uni-modal (L2 sound alone) in enhancing listening comprehension was reported in a number of studies such as Garza (1991) on ESL university students, Markham (1989 and 1999) on advanced ESL students, and Hirose & Kamei (1993) on Japanese intermediate EFL students. Similar results were also observed by Chung (1999), Nugent (1982), and Fujita & Itoh (1990). Meanwhile, superior effects of the standard mode (L1 subtitles + L2 sound) over the unimodal presentation was reported by Borras & Lafayetta (1994), Koskinen et al (1996). Turning to dual-modal

comparison studies, Holobow et al (1984) found the reversed mode (L2 subtitles + L1 sound) is more effective for the students in French immersion programs than the bi-modal, but that the bi-modal better suits advanced learners. Danan's (1992) results with beginning and intermediate levels of French learners in USA suggested that the bi-modal and the reversed mode enhance learners' comprehension more than the standard mode. While targeting intermediate Japanese EFL learners, Yoshida et al (1998) revealed standard and reversed modes are more efficient than the bi-modal.

These inconclusive results seem to be derived from varied levels of subjects' English proficiency in individual studies as Kimura & Miyamoto (1997) point out. Thus to elucidate variables such as the English proficiency of subjects, L1 backgrounds, and English as a second language or a foreign language, this study attempts to explore which mode is more beneficial for narrowly focused subjects; i.e. Japanese EFL learners. For a thorough comparison of all dual-modes across three proficiency levels for effectiveness, it is ideal that 9 different experiments be conducted. However this study will only target two dual-mode experiments as shown in Figure 1, due to the lack of availability of subjects in other proficiency areas.

Figure 1								
	RVD vs. STD	RVD vs. Bi	Bi vs. STD					
Advanced								
Intermediate								
Beginner								

(RVD, STD, and Bi stand for reversed, standard, and bi-modal respectively)

Firstly whether the bi-modal better suits advanced English learners than the standard is to be examined in Experiment 1. Second, differences, if any, between the reversed and standard modes for intermediate students are explored in Experiment 2 since an apparent discrepancy exists between Yoshida et als findings and Danon's regarding these two modes.

In both Experiments 1 and 2, two additional considerations not adopted in the previous studies were taken into account. The majority of research to date has analyzed the comprehensibility of different modalities based on a single session, whereas the focus of this study is placed on the long-term effects on L2 learners' listening comprehension skills - over a span of 15 weeks. In other words, the present research engages in revealing which dual mode best enhances learners' listening comprehension skills (first consideration), rather than their comprehension of what they are viewing. The time framework adopted here is a long-term one (second consideration), not based on a single session.

Experiment 3 tackles a totally different question from the first two. It is pointed out by Suzuki & Hozaki (1997) and Yoshida et al (1998) that beginner or intermediate levels of learners find themselves extremely overwhelmed in processing all the information (pictures in motion, sounds, and captions) when presented synchronistically, resulting in insufficient comprehension of what is taking place. This was interpreted as due to the most attention being given to reading the captions and less to the pictures and sound information. This matter of distracting the learners' attention from understanding the plot caused by captions is examined with Japanese intermediate EFL learners in Experiment 3. This third experiment does not include the two considerations in Experiment 1 and 2, because its focus is on comprehensibility during each viewing session rather than the long-term effects on listening skills.

In sum, three research questions raised here are as follows:

- 1. Which mode contributes more efficiently to improving listening comprehension skills of Japanese advanced EFL students after 15 weeks, standard or bi-modal?
- 2. How about for intermediate learners, standard or reversed?
- 3. Is learners' comprehension level lowered when they are presented with captions?



Methodology

The subjects were 1st and 2nd year students enrolled in general English lectures (reading & listening combined classes) taught by the author at 2 national universities in Japan and their levels of English proficiency were determined as advanced or intermediate by the scores on their English entrance exams (SENTA-NYUSHI: advanced over 80% and intermediate around 60%) as well as the JACET Basic Listening Comprehension Test Form A (advanced over 70% and intermediate around 50%). Based on these two scores, the subjects were randomly assigned to two groups in individual experiments. Those students taking other English lectures with the specific purpose of improving their listening skills were eliminated from data analysis because their term-end listening skills could not be regarded as being on an equal basis after extra sessions.

The DVD movie "You've Got M@il" was segmented into 13 eight-minute scenes to be used over a 4 month period, eight minutes being the approximate maximum length for these Japanese EFL learners in terms of their concentration duration while watching English movies as personally appraised by their class teacher. After each viewing session, five multiple choice comprehension questions (Appendix 1) were presented, followed by another DVD viewing of the same segment. The procedure of viewing, comprehension test, second viewing (in the same modality presentation as the first

viewing) and self-marking of the quiz was standard in previous research; therefore it was also adopted to avoid any intervening variables which could have been caused by a different viewing session order. When standard or reversed modes were used during the viewing, it was predicted that the subjects would only pay attention to the Japanese subtitles (standard) or Japanese sound (reversed) to solve the comprehension quizzes. This issue caused the present researcher to use bi-modal subtitles in the 1st (Experiment 2 for both groups) or 2nd viewing (Experiment 1 for the standard group). For the nature of the research question in Experiment 3, only one viewing session was administered: pictures and L2 sound alone for the control group while pictures, L2 sound and L2 captions for the experimental group.

DVD viewing sessions were conducted on a weekly basis over 15 weeks using the last 20 minutes (Experiment 1 & 2) or 10 minutes (Experiment 3) of the general English lessons, which lasted 90 minutes in all.

Experiment 1: Standard vs. Bi-modal <advanced learners>

Japanese advanced EFL learners were examined to decide whether they improve their listening skills more efficiently with standard mode (L2 sound + L1 subtitles) or bi-modal (L2 sound + L2 subtitles) over a period of 4 months. 40 subjects were assigned to the standard

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mode group with average JACET scores of 29.0 (out of 40 points) and 44 subjects to the bi-modal group with an average of 29.2. This pre-test as well as the post-test results (32.5 and 31.9 respectively) after the 13 sessions of DVD movie viewing showed no statistical differences between the two groups as shown in Table 1. This implies that whether standard or bi-modal methods are used or not, there was no significant difference in improvement of the listening skills of Japanese advanced EFL learners over a period of 4 months.

Table 1: JACET Scores

	pre-treatment			pos	post-treatment		
	Ν	scores	SD	Ν	scores	SD	
Standard	40	28.98	6.33	40	32.53	5.06	
Bi-modal	44	29.23	6.30	44	31.91	5.01	

In the next phase, JACET listening test scores before and after the DVD sessions were compared within each group (Table 2). Both groups produced significantly better scores in the post-tests (p<.01 for standard and p < .05 for bi-modal), a result which may possibly be interpreted that standard and bi-modal methods are equally as effective in improving advanced learners' listening skills. Furthermore, a closer look at the JACET scores (see Appendix 2 for the details of each part of JACET test) revealed that the standard presentation method contributed to developing better comprehension

of shorter sentences (as seen in the significantly better scores in the post-tests in sub-sections Part 1-3 where this skill is tested in various ways: matching a picture on a single sentence level in Part 1, choosing the most appropriate on a single turn-taking level in Part 2 and on a three turn-taking level in Part 3). On the other hand, the bi-modal group only showed statistical improvement in Part 3 as well as 4, in which longer (by about 60 words) passages were presented to test discourse level comprehension. This difference could be discussed in terms of DVD modality effects - whether L1 is involved in viewing the movie or not.

Table 2: Scores in Parts 1-4 of JACET Tests

	pre-treatment			pos	nent		
Standard	Ν	scores	SD	Ν	scores	SD	P
Part 1	40	8.70	0.18	40	9.28	0.18	0.023*
Part 2	40	6.80	1.96	40	7.83	1.80	0.016*
Part 3	40	6.73	2.34	40	7.70	2.07	0.046*
Part 4	40	6.75	2.44	40	7.73	1.95	0.051
TOTAL	40	28.86	6.33	40	32.53	<mark>5</mark> .06	0.007*

	pr	pre-treatment			post-treatment				
Bi-modal	Ν	scores	SD	Ν	scores	SD	p		
Part 1	44	8.84	1.03	44	9.11	1.13	0.24		
Part 2	44	7.07	2.14	44	7.80	1.85	0.09		
Part 3	44	7.05	1.98	44	7.48	1.96	0.031*		

Part 4	44	6.27	2.56	44	7.52	1.72	0.008**
TOTAL	44	29.23	6.30	44	31.90	5.01	0.029*

(**p*<.05, ***p*<.01)

According to the post-experimental questionnaire, 89% of the standard group read the Japanese subtitles in the first viewing with a grasp of the outline of the story in Japanese. Then all they had to do for the comprehension quiz in the 2nd (bi-modal) viewing, was presumably to look for specific items in the movie - scanning for certain parts of the sentences. Meanwhile, presented with the material only in English (subtitles & sound) twice, the bi-modal subjects assumingly gave their first priority to grasping the idea of what was going on, which forced them to be most attentive to discourse, rather than small segments of dialogues in the movie. Needless to say, however, more retrospective data are necessary to make a firm conclusion on this matter, since this is only the author's speculation at this stage.

Putting this speculative interpretation aside, the results in this experiment seem to indicate that the standard mode better suits improving advanced learners' listening skills in the area of shorter passages while the bi-modal contributes to enhancing comprehension of longer discourse.

Experiment 2: Standard vs. Reversed <intermediate learners>

88 Japanese intermediate EFL learners were randomly divided into 2 modality groups in DVD viewing sessions - standard (N=40) and reversed (N=48) - to examine the long-term effects of each modality on the subjects' listening skills. Both groups were presented with a DVD movie in a bi-modal manner in the first viewing and then L1 subtitles/L2 sound with standard mode while L2 subtitles/L1 sound with reversed mode. This reversed sequence in comparison to Experiment 1 (where the bimodal method came in the second viewing) was adopted based on the comments by Experiment 1 subjects, who expressed their preference to be presented bi-modally first to avoid their heavy reliance upon Japanese input since this was meant to improve their English listening comprehension skills (There was a mini-experiment conducted to examine the sequence effect between bi-modal-to-standard and standard-to-bi-modal on Japanese intermediate EFL learners - N=40 and 29 respectively, following the same methodology of viewing a DVD movie over 4 months. JACET scores improved from 21.60 to 26.10 (p<.01) for the bi-modal first group while the other group did not show significantly better scores after the 13-week-long session. Thus presenting the bi-modal first seems to better serve the intermediate learners in enhancing their long-term listening skills). JACET listening tests were administered before

and after the 13 sessions. The results were very similar to those of Experiment 1 (Table 3): there were no differences between the groups pre-/post-experimentally, but individual groups improved their JACET scores significantly (21.6 to 26.1 for the standard group and 22.0 to 26.1 for the reversed). This suggests that standard and reversed modes make no difference in enhancing listening proficiency in intermediate learners on a long-term basis.

Table 3: JACET Scores (total is 40)

	pre-treatment			pos	t-treatm		
	Ν	scores	SD	Ν	scores	SD	р
Standard	40	21.60	5.86	40	26.10	6.18	0.011**
Reversed	48	22.09	6.12	48	26.12	8.23	

(**p<.01)

The post-experimental questionnaire revealed that 63% of the standard group paid the most attention to Japanese subtitles, 2% to English sound alone, and 35% to both Japanese subtitles and English sound, while 37% preferred Japanese sound alone, 63% to both Japanese sound and English subtitles, and 0% to English sound alone in the reversed mode. This information clearly shows that intermediate learners will use any form of Japanese input over English information to comprehend the plot, and that they can spare more attention to

English information when they are provided with Japanese sound rather than subtitles.

Summing up the results of Experiment 2, there were no modality differences for intermediate learners to enhance their listening skill between standard and reversed modes. With either method, they scored statistically higher in the post-tests. Questionnaires from the subjects incidentally disclosed that intermediate learners prefer Japanese input to English in whatever form it might be presented in DVD viewing, and that Japanese sound input seemingly leaves more space in the language processing system to be used for L2 than Japanese subtitles do.

Experiment 3: Distraction by subtitles <intermediate learners>

This experiment examines whether Japanese intermediate EFL learners' ability of recalling the picture information from screen is lowered when they are presented with L1/L2 captions. In this experiment unlike the previous two, DVD movie viewing took place only once, followed by comprehension tests.

51 subjects were randomly assigned into 2 groups - the standard and reversed groups to test any comprehension breakdown by L1 captioning (no statistical differences in JACET listening test scores between the two groups). When presented in the standard mode (pictures in motion, Japanese captions, and English sound), 25 subjects were instructed to be most attentive to L1 captions and the motion pictures. On the other hand, 26 subjects in the reversed presentation (pictures in motion, English captions, and Japanese sound) were asked to pay attention to the L1 sound and the pictures. During 9 out of 13 DVD viewing sessions, five multiple-choice listening comprehension items included a question which could only be answered through the pictures in motion, not by listening to the dialogues in the movie (see the first comprehension question in Appendix 1 for an example). The results of this type of question in each mode are shown in Table 4.

Table 4: Comprehension Test on Informationthrough Pictures

	Standard Mode			Rev	Reversed Mode Difference			
	Ν	scores	SD	Ν	scores	SD	Р	
1st session	25	0.64	0.49	26	0.38	0.5	0.0705	
2nd session	25	0.71	0.46	26	0.43	0.51	0.0598	
3rd session	25	1	0	26	1	0	-	
4th session	25	1	0	26	1	0	-	
5th session	25	0.08	0.28	26	0.2	0.41	0.23	
6th session	25	0.84	0.37	26	0.76	0.44	0.5168	
8th session	25	0.83	0.38	26	0.96	0.2	0.1 <mark>366</mark>	
9th session	25	0.97	0.28	26	1	0	0.1385	
10th session	25	1	0	26	1	0	-	

There was no session where one mode produced significantly better scores than the other. This contradicts the author's prediction that the subjects in the reversed mode who can easily comprehend the plot with Japanese sound track would be able to pay much more attention to the pictures in motion and obtain a higher score in this type of questioning than those in the standard group who have to pay attention to both the Japanese subtitles and pictures in motion. This could be interpreted as resulting from the relatively easy task of reading information in the subjects' L1, thus leaving enough memory capacity left to process other visual information such as pictures in motion.

The next phase is to explore if reading L2 captions impedes Japanese intermediate EFL learners' intake level of visual information from the screen. There were 45 subjects in the control group who were presented with the movie with English sound while 36 subjects in the experimental group viewed the same DVD movie segments with English captions. After 9 viewing sessions where there was always one question (out of 5 multiplechoice comprehension questions) that was answerable only through watching the scenes, the average rate of obtaining the correct answer was calculated (Table 5).

Table 5: L2 Captions vs. L2 Sound

	Ν	Average	SD	р
Experimental group	36	0.861	0.351	0.1093
Control group	45	0.711	0.458	

There were no significant differences in the average scores between the experimental group who viewed the DVD movie with the aid of L2 captions and the control group who watched the movie with English sound. This appears to imply that processing L2 captions does not interfere with the intermediate learners' intake level of visual information from the screen.

Synthesizing the results together, reading captions (whether L1 or L2) does not seem to distract Japanese intermediate EFL learners' attention from parsing the on-screen visual information.

Conclusion

Modality effects in DVD viewing were investigated in terms of listening proficiency, targeting Japanese advanced and intermediate EFL learners in this study. From Experiment 1, Japanese advanced EFL learners seem to improve their listening skills using either standard or bi-modal methods with no significant differences between the two methods. The nature of the listening skills demonstrated by the listeners, however, was revealed to be different, depending on the modes.

The subjects in the standard mode improved their micro-level listening skill whereas the bi-modal group enhanced their macro-level listening comprehension. This was interpreted as due to a modality effect-the involvement of L1 in the standard mode—although retrospective data would be needed to confirm this.

Experiment 2 disclosed that both standard and reversed modes are effective in enhancing intermediate learners' listening skills after 15 weeks. Interesting incidental findings from this experiment were that intermediate learners rely heavily on Japanese input (whether captions or sound) and that Japanese sound input seemingly leaves more space in the language processing system to be used for L2 than the reading of Japanese subtitles allows.

The results from Experiment 3 suggest that reading captions (whether it is L1 or L2) does not seem to distract Japanese intermediate EFL learners' attention from parsing the on-screen visual information.

Needless to say, more subjects should be included in the data analysis and retrospective data should be collected from the subjects before any firm conclusion is drawn regarding the way in which the results from the 3 experiments are to be interpreted.

As a point of direction for further studies, there are still 7 dual-mode types left to be explored, as shown in Figure 1: reversed vs. standard and reversed vs. bimodal for advanced learners, reversed vs. bi-modal

and bi-modal vs. standard for intermediate learners, and all the combinations for beginning-level learners. This study targeted only Japanese EFL learners and it is obviously necessary that subjects with different L1 backgrounds be tested in the same way and that the results be incorporated into this study's in order to make the present interpretation generalizable across a larger pool of subjects. Materials to be used in the classroom are another important factor to be examined. The DVD movie "You've Got M@il" was used in this research, but only accumulated data based on a wide variety of movies would allow us to choose the most suitable movies for different proficiency levels of EFL learners. It is not until then that DVD movies can be most effectively used in terms of improving learners' listening comprehension skills over a long-term basis. The last, but not least, factor to be considered is the validity and reliability of the tools used in this study—JACET tests and the comprehension check quiz. The latter, in particular, was made by the present researcher, therefore the quiz items must undergo a process of sophistication according to accumulated results on their answer rates by the subjects in order to ensure that they are testing what they are supposed to.

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Appendix 1: Examples of multiple choice comprehension quiz on "You've Got M@il"

#2 (scenes 4-6) /5

*(1) The name of the bookshop Kathleen owns is (a. Scotch Shop, b. Fox books, c. City Books, d.the Shop Around the Corner).

(2) This movie is set in (a. London, b. New York, c. Los Angels, d. Boston).

(3) (a. George, b. Kathleen, c. Birdie, Christina) clearly stated having tried to have cyber-sex before.

(4) (a. Kathleen, b. Joe, c. Both Kathleen and Joe, d. Neither Kathleen nor Joe) has/have read "Pride and Prejudice" about 200 times.

(5) (a. Joe, b. Joe's father, c. Joe's girl friend, d. Joe's father's ex-wife) is going to get married.

*(1) is an example question which can be answered only through scenes on screen, not through dialogues.

Appendix 2: JACET Form A test

Part 1: Choose the most appropriate response to match a picture. Example: Listen to the following example.

A. There is an apple and two oranges on the table.

B. There are two melons and two bananas on the table.

C. There are two apples and three bananas on the table.

D. There are three lemons and three pineapples on the table.

Part 2: Choose the most appropriate response.

Example: Tomorrow's Sunday. What are you going to do tomorrow?

A. That's a good movie.

B. I saw the movies.

C. I'm going to the movies.

D. How do you like the movie?

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Part 3: Choose the most appropriate answer.

Example:

Bill: What's your favorite subject, Mary? Mary: French. What's yours, Bill?

Bill: Mathematics. I like English, too.

<<Question: What's Mary's favorite subject?>>

A. It's German.

B. It's English.

C. It's French.

D. It's Mathematics.

Part 4: Choose the most appropriate answer.

Example: Mr. Roberts often goes fishing on weekends. He usually comes home with a basket full of fish. But Mrs. Roberts doesn't like the smell of fish at all. Last Sunday evening he came in and put his basket on the table. His wife opened it and smiled. It was empty.

<<Question: Why did Mrs. Roberts smile?>>

A. Because she found the basket full of fish.

B. Because she found no fish in the basket.

C. Because her husband came home earlier than usual.

D. Because her husband didn't like the smell of fish.