

Vocabulary Learning through Captions

Yuri Nagira

Graduate student of Auckland University

Abstract. The purpose of the present study was to examine the degree to which Japanese university students incidentally acquire vocabulary from viewing captioned videos. Which condition, English captions or no captions, does result in higher vocabulary acquisition? Results of data analysis revealed that English captions can facilitate incidental vocabulary learning.

Keywords: vocabulary learning, English captions, Japanese learners of English

1. Introduction

The amount of research on how second language learners increase their vocabulary through aural input alone is limited. There are three studies that focus on incidental vocabulary learning through listening: aural input alone in Toya (1992, cited in Vidal, 2003) and Vidal (2003), and through listening while reading in Brown, Waring, and Donkaewbua, (2008). In summarizing the three previous studies, although listening alone can be a resource for vocabulary learning (Vidal, 2003; Toya, 2004), recognizing words seems more difficult than through reading (Brown et al., 2008). The few empirical studies focusing on Japanese students (Brown et al., 2008; Toya, 2004) demonstrated difficulty in learning English. First, Japanese learners found it difficult to learn vocabulary through listening alone (Brown et al., 2008). Second, the misunderstanding of the words they do hear can jeopardize students' vocabulary acquisition (Toya, 2004). Toya (2004) has pointed out that in vocabulary learning solely from aural input, there is always a concern about the gap between what words are actually said and what the learner actually interprets as being said. This leads to less effective vocabulary learning for Japanese learners. Therefore, to make use of listening input as a more effective tool for vocabulary learning, visual inputs such as images or captions, which visually provide the opportunity for the learner to confirm what actually is being said, are needed to support vocabulary learning for some learners who have difficulty in distinguishing aural input.

While a reasonable number of studies have investigated the relationship between captions and listening comprehension (e.g. Baltova, 1999; Danan, 1992; Garza, 1991; Guillory, 1998; Markham, Peter, & McCarthy, 2001), fewer studies have focused on how captions affect vocabulary learning. Whereas a significant difference between English captions and no captions was found for vocabulary learning (Baltova, 1999; Zarei, 2008), no significant effect of English captions was found (Neuman & Koskinen, 1992; Stewart & Pertusa, 2004; Sydorenko, 2010; Yüksel & Tanriverdi, 2009). There are possible factors which cause the contradictory findings. Combinations of audio and captions are one of the factors. There are several combinations of audio and captions: L1 audio with L2 captions; L2 audio with L1 captions; L2 audio with L2 captions. In addition, in the literature on vocabulary learning, researchers have studied a cross-section of L2 learners ranging from beginner to advanced levels by utilising individual tests ranging from the multiple-choice to translation tests mostly in written form (Baltova, 1999; Danan, 1992; Neuman & Koskinen, 1992; Stewart & Pertusa, 2004; Sydorenko, 2010; Yüksel & Tanriverdi 2009; Zarei, 2009).

Utilising measurement in written form from previous studies is problematic because it is not clear whether captions enhance learners' listening skills. We cannot determine whether the vocabulary listeners were able to acquire is due solely to reading captions rather than the aural input (Markham, 1999). Only one

research study, to my knowledge, has been done on the effect of captions on students' aural word recognition skills and learning meanings of words for beginner learners of Russian (Sydorenko, 2010), but no study has focused on aural word recognition skills and learning of meanings of words for Japanese students.

1.2. Research Questions

- Which modality (the use of L2 captions versus no captions) results in higher vocabulary acquisition, as measured by vocabulary recognition?
- Can participants retain vocabulary learned for one week and does the use of L2 captions affect the retention of vocabulary learned?

2. Methodology

Forty-eight Japanese undergraduate and postgraduate university students agreed to volunteer for the research and were randomly assigned to experiment and control groups. The participants' subject major and ages varied. As for the average age, the experiment and control groups were roughly equivalent.

Data was collected over three sessions during a three week period. Three VKS tests as pre-test, post-test1 and post-test2, were conducted in each session so as to assess participants improvement in vocabulary recognition. As a treatment, participants viewed two different videos twice in fixed conditions, with captions (CAP group) and no captions (NCAP group). In each condition, participants viewed two 7 minutes videos, both cartoons, in English. These were: 1) a portion of the third episode from *The Birthday Machine: Disney's Little Einsteins* (*Little*) DVD; and 2) a portion from *Tinker Bell* (*Tinker*), a Walt Disney Video production.

In order to assess the participants' vocabulary recognition levels, a modified version of the Vocabulary Knowledge Scale (VKS), originally developed by Wesche and Paribakht (1996), was used as a pre-test to measure the participants' depth of knowledge of vocabulary. The researcher omitted the last two scales and changed the wording, "seen" into "heard" because the VKS test was presented aurally:

- I have never heard this word before.
- I have heard this word but I don't know the meaning.
- I have heard this word and know the meaning.

The VKS test was conducted immediately after the treatment then one week later. The tests were presented aurally in order to assess the participants' ability to recognize the words in aural form.

3. Results

3.1. Research Question One

There is a significant difference in post-test 1 of *Little* between CAP group and NCAP group while there is no significant difference in post-test 1 of *Tinker* between two groups. Table 1 summarizes the data for the two caption modes and two videos at pre-test and the immediate post-test (Post-test1). Across all videos, the mean scores are: the CAP group, 10.22; the NCAP group 8.67.

Table 1. Mean Scores for Two Videos by Two Conditions at Pre-test and Immediate Post-test

Video	CAP		NCAP	
	Pre-test	Post-test1	Pre-test	Post-test1
<i>Little</i> n=48	7.73(1.00)	10.80(2.23)	8.05(1.13)	9.55(1.95)
<i>Tinker</i> n=48	7.31(1.05)	8.85(1.38)	7.32(1.13)	8.45(1.50)
All videosn=48	7.86(1.06)	10.22(2.18)	7.31(1.07)	8.67(1.44)

Note. Standard deviations are in parenthesis.

A repeated measures ANOVA for the two groups in the three repeated tests for *Little* and *Tinker* were carried out to determine if there were any significant differences between the scores across the three data times by group. The results suggest a significant group effect: *Little*, ($F(1.607, 73.917) = 58.843, p = .000 < .05$, partial eta squared = .561); *Tinker* ($F(2, 92) = 34.955, p = .000 < .05$, partial eta squared = .432). The

sequential Bonferroni adjustment was applied for multiple comparisons. Table 2 presents the data for *Little*, and Table 3 presents the data for *Tinker*.

Table 2. Between Group Comparisons for Little

Dependent Variable	Group(I)	Group(J)	Mean Difference (I-J)	Std. Error	Sig.
Pre-test	CAP	NCAP	-0.063	0.312	0.841
Post-test1	CAP	NCAP	1.346*	0.605	0.031*

Table 3. Between Group Comparisons for Tinker

Dependent Variable	Group(I)	Group(J)	Mean Difference (I-J)	Std. Error	Sig.
Pre-test	CAP	NCAP	-0.262	0.312	0.406
Post-test1	CAP	NCAP	0.559	0.412	0.181

3.2. Research Question Two

There was a significant difference between the CAP and the NCAP group on post-test 2 for *Little*, while no significant difference was found between the CAP and the NCAP group on post-test 2 for *Tinker*.

Table 4. Retention Data by Caption Modes over the Two Test Periods

Video	With captions		No captions	
	Post-test1	Post-test2	Post-test1	Post-test2
<i>Little</i>	10.80(2.23)	10.77(1.84)	9.55(1.95)	9.60(1.33)
<i>Tinker</i>	8.85(1.38)	8.58(1.42)	8.45(1.50)	8.36(1.26)

Note. Standard deviations are in parenthesis.

As seen in Table 4, there is relatively little decay over a one-week period in the scores for the group CAP and NCAP. The scores remain approximately the same regardless of the treatment. The data including pre-test are also presented graphically in Figure 1 and 2.

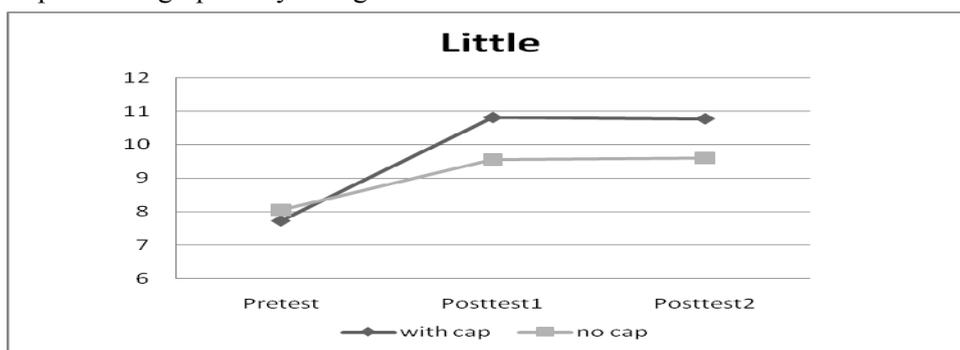


Fig 1. Means for Little over times (from pre-test to post-test2)

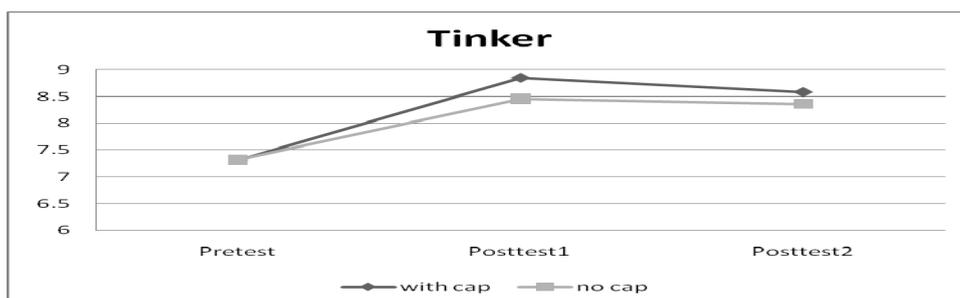


Fig 2. Means for Tinker over times (from pre-test to post-test 2)

4. Discussion

In order to examine whether it is beneficial for learners who process extensive audio input, (top-down -Nation, 2001), to also engage in bottom up processing by paying attention to captions in terms of learning meanings of words, the number of participants who first misunderstood a target word as a familiar word on the pre-test, but then noticed their mistakes subsequent to the viewing of one of the videos (signified by a correct answer in post-test 1) were counted by groups. It shows that while many participants in the CAP group noticed their mistakes, adjusted, and learned the meanings of the words (7 out of 10 in “bow” and 4 out of 10 in “flap”), only a few participants in the NCAP group noticed their mistakes and learned the meanings of the words (2 out of 8 in “bow” and 1 out of 6 in “flap”). Therefore it can be argued that captions can visually support students who have difficulty in distinguishing orally presented unknown words, ultimately allowing them to distinguish the aurally presented word when they may have otherwise failed to make the appropriate adjustment. This finding is crucial because a weakness in the ability to distinguish words in aural input can hinder vocabulary learning for L2 students, which was reported in previous studies on Japanese learners of English (Bonk,2000; Logan et al., 1991; Toya, 2004; 2005).

5. Conclusion

The present study indicated that English captions can facilitate vocabulary learning and the retention. In addition, English captions can contribute to learning word meanings when learners may have otherwise failed to understand appropriate meanings.

6. References

- [1] Baltova, I. (1999). Multisensory language teaching in a multidimensional curriculum: The use of authentic bimodal video in core French, *Canadian Modern Language Review*, 56(1), 32-48.
- [2] Bonk, W. (2000). Second language lexical knowledge and listening comprehension. *International Journal of Listening*, 14, 14-31.
- [3] Brown, R., Waring, R., & Donkaewbua, S. (2008). Incidental vocabulary acquisition from reading, reading-while-listening, and listening to stories. *Reading in a Foreign Language*, 20(2), 136-163.
- [4] Danan, M. (1992). Reversed subtitling and dual coding theory: New directions for foreign language instruction. *Language Learning*, 42, 497-527.
- [5] Garza, T. (1991). Evaluating the Use of Captioned Video Material in Advanced Foreign Language Learning. *Foreign Language Annals*, 24, 239-258.
- [6] Guillory, H.G. (1998): The effects of keyword captions to authentic French video on learner comprehension, *Calico Journal*, 15(3), 89-108.
- [7] Logan J. S., Lively S. E., & Pisoni D. B. (1991). Training Japanese listeners to identify English /r/ and /l/: A first report. *J Acoust Soc Am*, 89, 874-886.
- [8] Markham, P. (1999): “Captioned videotapes and second-language listening word recognition,” *Foreign Language Annals*, 32(3), 321-328.
- [9] Markham, P., Peter, L., & McCarthy, T. (2001). The effects of native language vs. target language captions on foreign language students’ DVD video comprehension. *Foreign Language Annals*, 34, 439-445.
- [10] Nation, I. S. P. (2001). *Learning Vocabulary in Another Language*. Edinburgh: Cambridge University Press.
- [11] Neuman, S. B., & P. Koskinen (1992): Captioned television as ‘comprehensible input’: Effects of incidental word learning from context for language minority students. *Reading Research Quarterly*, 27, 95-106.
- [12] Stewart, M. A., & Pertusa, I. (2004). Gains to foreign language while viewing target language closedcaption films. *Foreign Language Annals*, 37(3), 438-443.
- [13] Sydorenko, T. (2010). Modality of input and vocabulary acquisition. *Language Learning & Technology*, 14(2), 50-73.
- [14] Toya, M. (2004). Factors in incidental learning of L2 receptive vocabulary: Form, meaning, and input. *Ryudai Review of Euro-American Studies*, 48, 41-60.

- [15] Toya, M. (2005). Word-recognition in Listening to English Sentences for Japanese. *Nihon University Graduate School of Social and Cultural Studies Kiyō*, 6, 495-506.
- [16] Vidal, K. (2003). Academic listening: a source of vocabulary acquisition? *Applied Linguistics*, 24(1), 56-89.
- [17] Wesche, M., & Paribakht, T. S. (1996). Assessing second language vocabulary knowledge: Depth versus breadth. *Canadian Modern Language Review*, 53, 13-40.
- [18] Yüksel, D., & Tanrıverdi, B. (2009). Effects of watching captioned movie clip on vocabulary development of EFL learners. *The Turkish Online Journal Technology*, 8(2), 48-54.
- [19] Zarei, A. A. (2009). The effect of bimodal, standard, and reversed subtitling on L2 vocabulary recognition and recall. *Pazhuhesh-e Zabanha-ye Khareji*, 49, 65-85.