



Vocabulary Learning via Dual-Subtitled Viewing: The Effect of Different Task Types

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ABSTRACT

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This study examined the effects of viewing dual-subtitled videos under different task conditions. The participants included 60 university students learning English from three classes. They were equally assigned to three different vocabulary-learning conditions. All participants first viewed dual-subtitled videos, then two experimental groups completed one of the learning tasks (either a sentence writing task or a fill-in-the-blank task). A comparison group did not complete any learning tasks. Participants' immediate and delayed vocabulary gains of target words under three different task conditions were compared. The results revealed the highest level of vocabulary gains among learners engaged in sentence-writing tasks with target words. Students were only able to learn some of the target vocabulary by viewing dual-subtitled videos without engaging in any vocabulary learning task (the comparison group), but vocabulary gains were relatively small compared to those who completed a blank-filling task additionally. The findings have theoretical and pedagogical implications for vocabulary learning within the context of video-based learning.

KEYWORDS

dual subtitles, vocabulary learning, task type, instructed learning, audiovisual input

1. Introduction

With advances in technology and the widespread availability of the Internet, online audiovisual materials (e.g., YouTube videos and TV shows via streaming services) and multimedia captions have been increasingly used in second language (L2) classrooms. Many different kinds of multimedia captions, including subtitles in a first language (L1), full captions in the target language, keyword captions, glossed captions, and dual subtitles, are readily available and can be used for L2 learning. L2 researchers have noted that the use of multimedia captions promotes learners' comprehension of the audiovisual material, consequently enhancing the benefits of viewing for language learning (Webb and Rogers 2009). Although utilizing online audiovisual materials with captions is likely to yield beneficial learning outcomes in many aspects of L2 knowledge, most scholarly attention has been paid to their effects on vocabulary learning due to their high potential to aid learners in understanding the meanings of unfamiliar words. More recently, a large body of empirical research has provided evidence that audiovisual materials and captioning can be beneficial for L2 vocabulary gains (Fievez, Montero Perez, Cornillie and Desmet, 2023). Nonetheless, not much is known regarding the effectiveness of different caption conditions (Montero Perez 2022). Out of all the different captions, dual subtitles, also referred to as bilingual subtitles, where learners' native and target languages are shown in parallel on screen, have been recognized as useful to promote L2 vocabulary learning (e.g., Dizon and Thanyawatpokin 2021, Fievez et al. 2020, Wang and Pellicer-Sánchez 2022).

In spite of its potential benefit in vocabulary learning, little empirical work on the effectiveness of dual-subtitled videos on lexical acquisition exists currently. Another gap in the existing literature is that viewing dual-subtitled videos has been mainly explored in the context of incidental vocabulary learning. For instance, the focus has been on measuring how much vocabulary learning occurs as a by-product of watching dual-subtitled videos without instructional interventions. However, with the increasing use of video materials in foreign language classes, optimizing the use of dual-subtitled videos, along with various learning tasks in a pedagogical setting, is opportune. Accordingly, this study examined the effects of viewing dual-subtitled videos under different task conditions. The findings of the study can provide insights on how video materials with dual subtitles can be implemented to promote L2 vocabulary learning in classroom settings.

2. Literature Review

2.1 Viewing audiovisual materials with captions for L2 vocabulary learning

Viewing audiovisual materials in an L2 has been recognized as an efficient way to increase L2 learners' exposure to authentic L2 aural input (Webb and Rodgers 2009), consequently improving L2 vocabulary knowledge. Two theories that may explain the benefits of using audiovisual materials for L2 vocabulary learning include Paivio's (1990, 2014) bilingual dual coding theory (BDCT) and Mayer's (2001) cognitive theory of multimedia learning (CTML). Paivio's BDCT proposes two cognitive systems, one that processes language and the other that is responsible for aural and visual input. The systems function both separately and interactively and may make L2 input more accessible and memory more retrievable. When information is displayed in aural and written modes, as in captioned videos, both visual and verbal channels can become active, enhancing memory and resulting in deeper and more durable learning than when obtaining information from an isolated mode. Based on this theory, viewing audiovisual materials with captions may help learners acquire new words by presenting words using visual and verbal aids. This theory also lays the foundation for Mayer's (2001) CTML that postulates people acquire new

knowledge more efficiently from words and pictures than just from words. According to Paivio's (1990, 2014) and Mayer's (2001) theories, using audiovisual materials such as captioned/subtitled videos can promote L2 vocabulary learning.

Among different types of captions, L2 captions and L1 subtitles, in particular, have received attention in the literature. Both L2 captions and L1 subtitles appear as on-screen texts, but the former involves the conversion of the L2 audio into the L2 written mode (e.g., L2–L2), whereas the latter indicates the L1 translation of the L2 audio (e.g., L2–L1). Simply put, L2 captions are a transcript of the L2 audio, but L1 subtitles are a translation of the L2 audio. Many studies have noted the facilitative role of L2 captions and L1 subtitles in vocabulary learning. For instance, prior studies have demonstrated that L2 captions aid in segmenting speech chunks into meaningful units, consequently improving learners' attention to unfamiliar words (Gass et al. 2019). In other words, L2 captions may make the audio input more comprehensible by enabling learners to visualize the L2 audio, which in turn promotes word recognition and vocabulary development (Montero Perez et al. 2013). Although L2 captions may increase learners' L2 processing ability and improve their awareness of unfamiliar L2 words, the positive effects can be reduced when the speech of audiovisual material is fast and includes advanced L2 words. For less advanced learners, therefore, L1 subtitles may be more helpful to connect the form and meaning of an unfamiliar L2 word because they offer written translations on-screen (Koolstra and Beentjes 1999).

L1 subtitles and L2 captions can be used separately, but recently, using both concurrently, namely dual subtitles, has gained popularity in English-as-a-foreign language (EFL) contexts. To be more specific, dual subtitles refer to a captioning condition that simultaneously displays L1 subtitles and L2 captions at the bottom of the screen (Gesa Vidal 2019). Dual subtitles can provide a precise L1 meaning of the L2 audio, resulting in more successful matching of the L1 and L2 words (Lunin and Minaeva 2015). Dual subtitles can combine the benefits of the L1 subtitles and L2 captions, but they can be ineffective for language learning from the perspective of cognitive load theory and the redundancy principle (Sweller 2005), presenting identical information in multiple formats in a redundant way. This multitude of information might cause cognitive overload, which can impede learning because of the learners' limited working memory capacity. Due to the transient nature of audiovisual input, the pressure to process all this information under time constraints may make the task of processing information overly taxing. However, Mayer et al. (2014, 2020) argue against the redundancy principle and claim that the inclusion of captions or subtitles may not hinder learning, especially in the context of L2 learning. They instead proposed the subtitle principle, which suggests that redundant on-screen information such as subtitles could promote comprehension, as L2 learners generally have difficulty identifying all the words they hear. However, no conclusive evidence links such a principle to vocabulary learning from audiovisual input with dual subtitles.

To provide evidence on vocabulary-learning gains from bilingual subtitles in language learning, several L2 researchers have conducted empirical studies. However, the number of studies on the effects of dual-subtitled viewing on vocabulary learning is scarce, and the existing research has not yielded convincing results. In a study by Wang (2014), college EFL students watched four 5-minute videos from American TV series under four different conditions (i.e., bilingual subtitles, captions, L1 subtitles, and no subtitles). She found that vocabulary-learning gains in the dual-subtitle mode were not statistically significant compared to other conditions. However, the finding should be interpreted with caution because the study did not control for students' prior vocabulary knowledge, which plays a key role in incidental vocabulary learning. To address the issue, Hao et al. (2022) replicated the study with intermediate and advanced EFL learners. The participants viewed four 5-minute TED talk videos with one of the following captioning conditions: bilingual subtitles, captions, L1 subtitles, and no subtitles. Results revealed no statistically significant differences in intermediate students' vocabulary gains among the four conditions. However, for advanced learners, the dual-subtitle group yielded significant vocabulary-

learning gains over the caption group. The researchers noted that dual subtitles alone might not be efficient to help intermediate learners to learn academic words from TED talks.

As shown above, studies on the effects of dual subtitles on vocabulary learning mainly investigated whether bilingual subtitles lead to greater vocabulary learning compared to other types of captioning conditions. Also, these studies examined incidental vocabulary learning from watching dual-subtitled videos. However, in language learning contexts, vocabulary learning tasks are often provided along with captioned videos to enhance vocabulary learning. A relevant question is then which learning tasks can maximize learning benefits in multimedia-based learning environments.

2.2 Learning tasks for L2 vocabulary learning

Many studies have explored the effectiveness of different learning tasks on L2 vocabulary learning. Hulstijn and Laufer's (2001) involvement load hypothesis informed the bulk of these studies and proposed a framework for designing effective vocabulary tasks. According to this hypothesis, word learning relies on the amount of mental effort or involvement that a learning task imposes. Specifically, tasks that require learners to make more mental efforts with new words are likely to be more effective for vocabulary learning. Hulstijn and Laufer suggest that learners will increase involvement if they *need* to know new words, they *search* for the meaning of these words, and they *evaluate* the meanings. Hulstijn and Laufer posit that the sum of the degree of the “*need, search, and evaluation*” components reflects the involvement load of a vocabulary-learning task. Need refers to learners' need to know new words targeted in a task; need is a strong degree (marked as 2) when the need to know the word is motivated by learners themselves, and moderate (marked as 1) when the need to know a word is imposed externally. In the absence of learners' need to know words targeted in a task, need is not induced at all (marked as 0). Search involves looking up the meanings of words using tools, such as dictionaries, and has a binary degree (i.e., absence = 0, presence = 1). When the meanings are provided within a given task, the element is absent (marked as 0). Evaluation involves assessing a new word based on a given context and is measured at a strong degree (marked as 2) when learners create original contexts for a new word in tasks, such as sentence writing. It is measured at a moderate degree when only the recognition of differences in meaning is required, such as blank-filling activities with possible options. Evaluation is absent (marked as 0) when a task does not require assessing the meaning or form of an unknown L2 word based on contexts. In line with this theoretical claim, more effective vocabulary learning can be accomplished with tasks that induce greater involvement loads.

Empirical studies testing the validity of the involvement load hypothesis have provided compelling evidence that tasks inducing high levels of involvement with words increase the likelihood that target words are noticed and eventually learned. For instance, Keating (2008) compared learning tasks inducing different degrees of involvement: sentence writing, reading plus fill-in-the-blank, and reading only. The involvement load index for each learning task was 3, 2, and 1, respectively. In line with the prediction of the involvement load hypothesis, participants in the sentence-writing group outperformed the other groups in terms of vocabulary learning. Up to now, however, the involvement load hypothesis has mainly been investigated within the context of vocabulary learning via reading. Whether similar results can be replicated in a video-based learning environment remains unclear. To fill this gap, this study investigated the effects of different learning tasks, based on dual-subtitled videos, on vocabulary learning. Specifically, two learning tasks investigated were sentence writing and fill-in-the-blank activities. Also, to determine whether the effects persist, this study examined both immediate vocabulary gains and retention. Accordingly, the present study addressed the following two research questions: 1) to what extent does watching dual-subtitled videos under different learning task conditions lead to immediate vocabulary

gains, and 2) to what extent does watching dual-subtitled videos under different learning task conditions lead to vocabulary retention?

3. Method

3.1 Participants

Participants included 60 students (aged 18-19 years old) enrolled in a required English course at a university in South Korea. They were freshmen and had learned English for at least 8 years in school. All of them had not lived in an English-speaking country. The participants belonged to three classes, and these classes were randomly assigned to three conditions, with each consisting of 20 students. They all took a practice version of the Test of English for International Communication (TOEIC) at the beginning of the school year to be assigned to a suitable level of the course. Their scores ranged from 500 to 700 out of a total of 990. Their scores were compared among the three groups using ANOVA. The results were comparable in terms of their English proficiency, $F(2, 59) = .004, p > .05$.

3.2. Viewing material

The two videos chosen for this study were two TED-Ed (Technology Entertainment Design Education) animations: (1) Aguirre's "What Would Happen If You Didn't Sleep?" and (2) Jafari's "What Happens to Our Bodies after We Die?" A single voice actor narrated each video, and the animated image served as an aid for understanding the content. Because of their visual support and clear oral presentation, the videos were deemed suitable for English language learners. In addition, words used in the videos were analyzed using Cobb's VocabProfile (<http://www.lex tutor.ca/vp/>), and 87 % of the vocabulary items were within the first 2,000 most frequently used words. To ascertain that the videos were not too challenging for the participants, students resembling the study's participants took a multiple-choice comprehension test after viewing the two videos with dual subtitles. The comprehension questions consisted of a total of 10 items, dealing with both global ideas and local information from the two videos. Five items were generated for each video. They were able to choose the correct answer to more than 60 % of the items, which confirmed the suitability of the videos. Each video was roughly 5 minutes and 600 words in length. The video clips were accessible through YouTube. Dual subtitles for the two videos were created using the Language Reactor Chrome extension, as shown in Figure 1.

3.3 Target words

Ten words participants were unlikely to know were drawn from the two video clips, with five target words selected from each clip (See Table 1). The target words were pilot-tested with a separate group of students whose English proficiency level was similar to that of the actual participants. In the test, the students were asked to write down the meaning of each target word in Korean, and the words were unknown to almost 99% of the students. To ascertain that the participants had no prior knowledge of the target words, they took a vocabulary test. The ten target words and twenty distractors were presented on the test, and they were asked to supply the meaning of each word. The test result confirmed that all target words were unknown by the participants. The frequency level of each target word was analyzed based on Nation's (2012) British National Corpus (BNC) and the Corpus of

Contemporary American English (COCA) word lists. They were mid-frequency words that belong to word families between the 4,000 and 9,000 frequency levels.

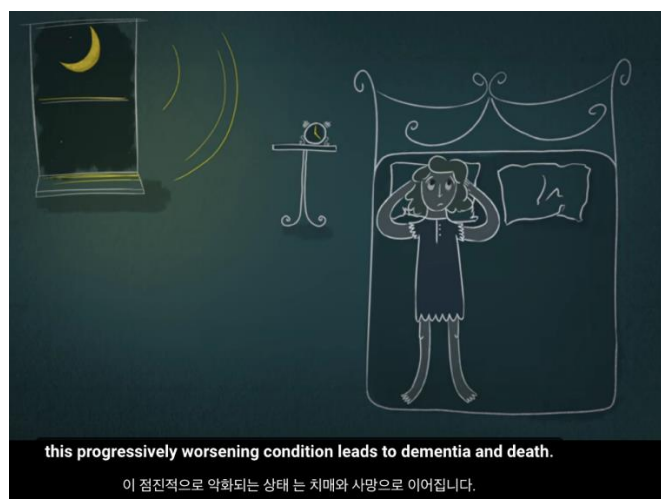


Figure 1. A Snapshot of a Video

Table 1. Target Words and Frequency Levels

Target words	Audiovisual materials
Obesity (6K), diabetes (4K), insomnia (9K), hallucination (8K), slumber (9K)	Sleep deprivation
Decomposition (8K), urn (8K), casket, (8K) cemetery (4K), habitat (4K)	The body after death

3.4 Vocabulary-learning tasks

In this study, all participants were given a list of target words and asked to guess their meanings before watching a video with dual subtitles. After viewing the dual-subtitled video, a comparison group did not complete any additional vocabulary learning tasks, but two experimental groups completed either a sentence writing task or a fill-in-the-blank task. In the sentence-writing task, participants were asked to write a sentence with each target word. The filling-in-the-blank task required students to choose one appropriate word from five possible options in a given context. Sentences with target words were drawn from the Longman Dictionary of Contemporary English Online (LDOCE), and each target word was removed to create the blank-filling task. Table 2 illustrates the involvement load of the different types of tasks.

Table 2. The Involvement Load of the Different Task Types

Group	Procedure	Involvement load
Comparison	1. Guess the meaning of target words 2. Watch a dual-subtitled video	need (<i>I</i>) + search (<i>I</i>) = 2
Sentence-writing	1. Guess the meaning of target words 2. Watch a dual-subtitled video 3. Write a sentence using the target words	need (<i>I</i>) + search (<i>I</i>) + strong evaluation (2) = 4
Fill-in-the-blank	1. Guess the meaning of target words 2. Watch a dual-subtitled video 3. Complete a Fill-in-the blank task with the target words	need (<i>I</i>) + search (<i>I</i>) + moderate evaluation (2) = 3

3.4 Measures

To measure target vocabulary knowledge, a meaning recall test was created. Participants were asked to supply the meaning of each target word in L1 Korean. Five distracters were included to minimize a testing effect. The same measure was used for the immediate posttest and delayed posttest, but the order of the vocabulary items was different.

3.5 Procedure

The study was conducted in English classes during regular class time. A total of five study sessions were held over one month. The class met for two hours per week. A pretest was administered during the first session. In the second session, all participants viewed a video clip on sleep deprivation with dual subtitles. Prior to viewing the video, they were provided with a list of the target words from the video and were asked to guess the meaning of the words to make sure they had a moderate need to find and search for the meaning of the target words while watching the video with dual subtitles. After viewing, experimental groups completed one of the learning tasks (either a sentence-writing task or a fill-in-the-blank task), whereas the comparison group did not complete any learning tasks. An immediate posttest was administered after each group completed their respective treatment. The following week (session 3), a delayed posttest was administered to investigate word retention. In the fourth session, the participants repeated what they did in the second session, but a different viewing material was used. One week later, a delayed posttest was administered to test target words from the second video. Figure 2 illustrates the procedure of the study.

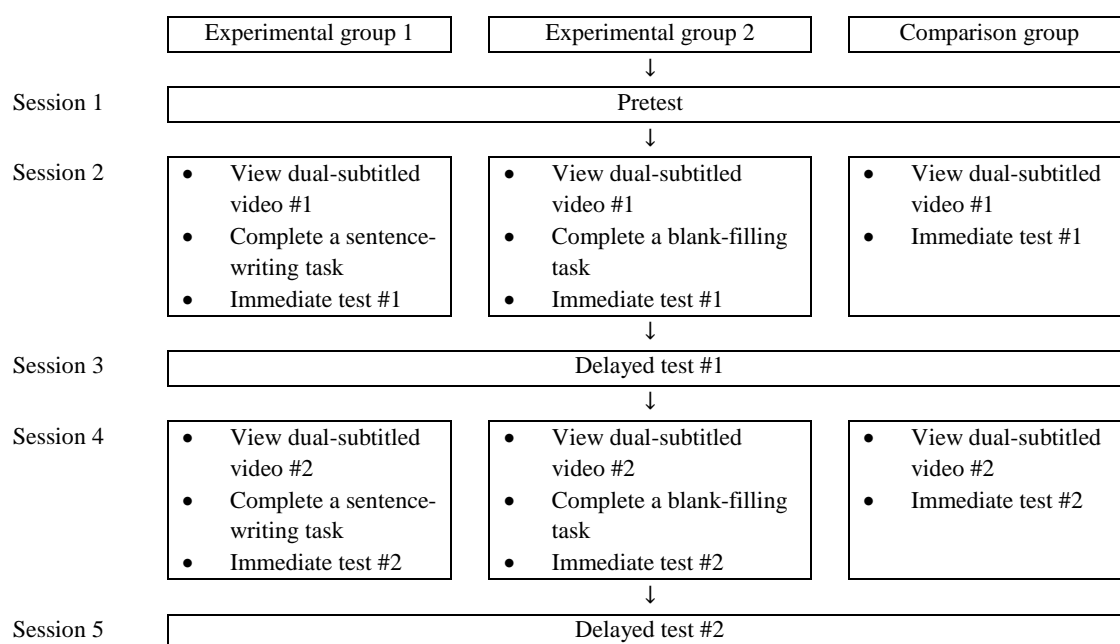


Figure 2. The Procedure of the Study

3.6 Scoring and data analysis

Vocabulary tests were scored in a dichotomous way. A correct response received one point, and an incorrect response received zero points. A partial point (0.5 pts) was awarded for responses that were closely associated with the target word semantically. For example, responses such as 나눠지다 received a 0.5 for the target word *decomposition*. In this study, the independent variable was the three vocabulary-learning tasks based on dual-subtitled videos: experimental group 1, experimental group 2, and the comparison group (see Figure 2). The dependent variable was the participants' vocabulary test scores. Participants' scores on immediate tests 1 and 2 were combined to generate a single data set. Similarly, their scores on delayed tests 1 and 2 were also merged. The possible maximum score for the combined immediate and delayed tests was 10, respectively. For statistical analyses, SPSS version 25 was used to examine the effects of the three conditions. Particularly, two separate one-way Analysis of Variance (ANOVA) procedures were conducted to compare between-group vocabulary scores on the immediate posttest and the delayed posttest, respectively. The Tukey HSD post hoc test was performed on each pair of groups after ANOVA results showed a statistically significant difference.

4. Results

Table 3 presents the means and standard deviations of the vocabulary scores by group. The descriptive statistics show that the participants who completed a sentence writing task with target words (Experimental group 1) had the highest immediate vocabulary gains. On average, they scored 9.12 ($SD = 0.89$) out of 10. The participants who completed a fill-in-the-blank task (Experimental group 2) demonstrated the second-highest scores in immediate vocabulary gains ($M = 7.01$, $SD = 1.21$), followed by the comparison group ($M = 4.21$, $SD = 1.11$). Results of a one-way ANOVA indicated a statically significant main effect of vocabulary-learning conditions on participants' vocabulary scores in their immediate posttest ($F(2, 57) = [104.342]$, $p < .001$). Post hoc analysis using the Tukey's HSD post hoc criterion for significance indicated that the participants in Experimental group 1 had significantly higher mean scores than those in Experimental group 2, and the participants in Experimental group 2 had significantly higher mean scores than the comparison group.

A similar trend was found in the delayed posttest results. ANOVA results showed that participants' retention scores differed significantly across the three learning conditions, $F(2, 57) = [98.92]$, $p < .001$. Participants in Experimental group 1 showed the highest level of retention ($M = 7.32$, $SD = 1.29$), followed by Experimental group 2 ($M = 5.18$, $SD = 1.42$), and the lowest in the comparison group ($M = 3.02$, $SD = 1.38$).

Table 3. Vocabulary Test Scores in Immediate and Delayed posttests

Condition	N	Immediate posttest		Delayed posttest	
		Mean	SD	Mean	SD
Group 1	20	9.12	0.89	7.32	1.29
Group 2	20	7.01	1.21	5.18	1.42
Comparison	20	4.21	1.11	3.02	1.38

Note. Maximum score = 10

Group 1: viewing a dual-subtitled video & completing a sentence writing task

Group 2: viewing a dual-subtitled video & completing a gap-filling task

Comparison: viewing a dual-subtitled video only

5. Discussion

The purpose of this study was to investigate the extent to which different vocabulary learning conditions based on dual-captioned videos promote immediate and delayed vocabulary gains. The results revealed the highest level of vocabulary gains among learners who engaged in sentence-writing tasks with target words after watching dual-subtitled videos (Experimental group 1). Learners were able to learn some of the target vocabulary only by viewing dual-subtitled videos without engaging in any vocabulary-learning task (the comparison group), but vocabulary gains were relatively small compared to those who completed a blank-filling task additionally (Experimental group 2). Specifically, the vocabulary test findings suggest that completing either a sentence-writing task (Experimental group 1) or a blank-filling task (Experimental group 2) after viewing dual-subtitled videos resulted in a high level of immediate vocabulary gains (Experimental group 1 = 91%; Experimental group 2 = 71%) and vocabulary retention (Experimental group 1 = 73%; Experimental group 2 = 51%) compared to just watching the videos (immediate gains = 42%, delayed gains = 30%).

One probable explanation for the findings may concern the involvement load that each vocabulary learning condition induces. According to Hulstijn and Laufer's (2001) involvement load hypothesis, the addition of the level of the need, search, and evaluation factors decide the load of a vocabulary-learning task. In this study, all participants were given a list of target words and asked to guess their meanings before watching the video with dual subtitles. Therefore, they had a moderate *need* to find out the meaning of the target words (need = index 1), and they were primed to *search* for the meaning of the words while viewing the dual subtitled video (search = index 1). After watching the video, they took part in their respective vocabulary-learning tasks. The *Evaluation* factor differentiated the load of a vocabulary-learning task among the three groups. For instance, a sentence-writing task that Experimental group 1 completed required a stronger degree of *evaluation* of meanings and forms of the target words because learners had to generate sentences with the words (evaluation = index 2). However, the blank-filling task induced a moderate degree of evaluation as learners read L2 sentences to recognize the meanings of the target words (evaluation = index 1). Finally, the third condition, watching a dual-subtitled video only, did not induce any degree of *evaluation* (evaluation = index 0). The involvement load index, therefore, was highest for Experimental group 1, followed by Experimental group 2, then the comparison group. The different degrees of evaluation involved in the three vocabulary-learning tasks might have been a determinant of participants' vocabulary gains in immediate and delayed posttests. The findings are in line with previous research on the involvement load hypothesis that learning tasks inducing greater involvement loads likely result in greater vocabulary gains (e.g., Hulstijn and Laufer 2001, Keating 2008).

The findings of the current study also add support to a small number of studies that have found that watching audiovisual material with dual subtitles in another language can provide excellent incidental learning opportunities (Wang 2019, Wang and Pellicer-Sánchez 2022). However, the study suggests a greater potential for viewing subtitled-videos for vocabulary learning in an intentional learning setting, which had not been explored widely in previous studies. Furthermore, the results confirm the subtitle principle, which predicts that redundant on-screen text (e.g., captions or subtitles) may not hamper learning in the context of L2 learning (Mayer et al. 2020). The findings reinforce the idea that showing audiovisuals, along with both L1 captions and L2 subtitles, can serve as an aid rather than an obstacle for L2 vocabulary learning.

Another contribution of the study is to investigate the effectiveness of viewing dual-subtitled videos under three different vocabulary-learning conditions. Prior studies have mainly focused on the effectiveness of dual subtitles in relation to other types of captions or subtitles. The study results suggest that the positive effects of dual-subtitled videos on vocabulary can be amplified by the provision of instructional interventions, such as vocabulary-focused learning tasks. Particularly, such tasks can be designed based on the involvement load hypothesis theoretical framework (Hulstijn and Laufer 2001). The results of this study demonstrate that viewing a dual-subtitled video might result in a higher level of vocabulary gains when combined with vocabulary tasks with higher involvement loads. Specifically, this study presents evidence of the involvement load hypothesis (Hulstijn and Laufer 2001) within the environment of audiovisual materials.

The study has some pedagogical implications for language classrooms. First of all, this study illustrated how dual subtitles can be generated using online tools such as the Language Reactor. Teachers can guide students on how to take advantage of such tools to look up unfamiliar words from the video. Also, it suggests which vocabulary tasks can induce stronger levels of need, search, and evaluation in the context of audiovisual input. Viewing dual-subtitled videos alone does not seem to yield a satisfying degree of vocabulary gains. Therefore, it is crucial to include pre-listening instructions or activities, which help learners feel the *need* to recall challenging words and during-listening interventions that direct them to *search* for unfamiliar or high-level words in the video presented.

Post-viewing vocabulary-learning tasks can also be provided. Post-viewing vocabulary-learning tasks with a high degree of the evaluation factor are likely to enhance vocabulary learning.

6. Conclusion

This study investigated vocabulary learning based on audiovisual input. It revealed that viewing dual-subtitled videos could promote vocabulary learning. However, this study demonstrated that captioned video materials can facilitate vocabulary learning when integrated with vocabulary-learning tasks. Vocabulary gains can differ depending on the degree of involvement loads that vocabulary-learning tasks induce. The study adds support to the role of involvement loads in resulting in vocabulary gains but extends its role to the context of video-based multimedia learning. Some limitations of this study, however, should be considered in future research. First, the participants in the present study were intermediate-level English learners. An investigation that involved mixed or differing proficiency levels might provide new findings. Second, this study only measured written-receptive target vocabulary knowledge, not spoken-receptive (aural) knowledge. Future studies might add an aural test to give a more complete assessment of the type of learning that occurred (Webb 2005). Also, this study showed that vocabulary learning could take place after just watching dual-subtitled videos, but to firmly confirm the benefits of dual-subtitled videos on vocabulary learning, future studies could include a control group, who only watched videos without dual-subtitles. Finally, only one week lapsed between the immediate posttest and the delayed posttest. Further studies examining the longer-term impact of testing would be desirable.

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Examples in: English

Applicable Languages: English

Applicable Level: Tertiary