Incidental Vocabulary Learning Through Watching Movies

ROBERT JOHN ASHCROFT a

JOSEPH GARNER b

OLIVER HADINGHAM c

a Tokai University, Japan
Email: bob.ashcroft1971@gmail.com

b International Christian University, Japan
Email: joe_garner2003@yahoo.co.uk

c Rikkyo University, Japan
Email: oliver17h@gmail.com

Abstract

It is thought that in order to comprehend general conversation at the native-speaker level, it is necessary to know thousands of word families. Vocabulary learning is therefore a vital component to attaining proficiency in a language. Technological advances have greatly expanded the resources available to language students. In particular, learners increasingly have access to audio-visual, meaning-focused input, such as DVDs and streamed video material. Studies indicate that such materials can be used as linguistic input to facilitate incidental vocabulary learning, in the same way extensive reading (ER) uses graded readers have traditionally been used for the same purpose. The current study sought to measure the effect of watching a single movie in English, with English captions, on the ability of Japanese students to recall a selection of words taken from the movie script. The results revealed a significant increase in students’ ability to recall the words directly after watching the movie. From a list of 42 target words, the mean number of words recalled increased by 1.7 (4.05%) words after viewing. The result suggests that meaning-focused audio-visual input such as movies are a valuable supplementary resource for language learners, which can help provide a welcome boost to their rate of vocabulary acquisition.

Keywords: incidental vocabulary learning, movies, vocabulary acquisition

Introduction

The sheer number of words required to achieve a reasonable level of fluency can be a significant obstacle for second language (L2) learners. For example, recent research among Japanese university students found that the students in the study had a vocabulary size of around 3,700 word families (McLean, Hogg, & Kramer, 2014). This contrasts sharply with estimates that 6,000 to 7,000 word-families.
families are needed to comprehend everyday spoken adult texts, and up to between 8,000 to 9,000 for written texts (Nation, 2006). It is therefore important for students to adopt a wide range of learning strategies in order to maximize their opportunity to acquire new words. One way to achieve this is through exposure to large amounts of L2 input, thereby facilitating incidental vocabulary acquisition. This is where vocabulary is acquired as a byproduct of processing that L2 input, as opposed to being focused on individual words or phrases within it. Incidental vocabulary learning can be contrasted with deliberate vocabulary learning, where students target specific lists of words and phrases to study, using flashcards for example.

Research indicates that extensive reading (ER) leads to incidental vocabulary learning, but the process is somewhat unpredictable and incremental, with partial vocabulary knowledge being built up over time (Laufer, 2003; Cobb, 2007; Pellicer-Sánchez & Schmitt, 2010). Indeed, Waring and Takaki (2003) note in their review of research that only a modest amount of vocabulary is learned through reading. Incidental vocabulary uptake from audio input has also been investigated (e.g., Vidal, 2011; van Zeeland & Schmitt, 2013). Audio input has long been part of the language classroom, whether from teachers themselves, or the tape and CD recordings accompanying language-learning textbooks. Video however, is a more recent source of L2 input. It is thought to be a more effective resource than traditional mono-modal audio input because the supplementary visual input, “greatly strengthens or enhances the verbal message” (Vanderplank, 1990, p. 223) thereby aiding the understanding of what is being said. Given the popularity of video streaming websites (e.g., YouTube) and TV and movie streaming services (e.g., Netflix, Amazon Prime, Hulu), together with the ubiquity of screens in homes, schools, and pockets, the potential of video as an L2 vocabulary learning resource is clear. The authenticity of such material, in the shape of short videos, episodic television dramas, or full-length movies, further underlines the value of video as a resource. This study sets out to measure the effect of watching a single, feature-length movie on incidental L2 vocabulary learning.

**Background**

Watching television and video provides L2 students with valuable exposure to authentic language that is contextually based (Baltova, 1999). From television and video, students can grasp how a language is actually used in real-life situations and gain a valuable awareness of the culture in which the language is spoken. However, in being so authentic, much of the input for language learning purposes from television and video can be lost to students. The speed and authenticity of the speech can mean many L2 students struggle to grasp what is actually said in a video, or if they do, its meaning may be difficult to comprehend (Webb, 2010b). Using captioning (L2 audio with L2 text) is a readily available means of aiding the comprehension of audio-visual material for L2 learners.

Captions are a useful way of aiding comprehension of authentic video input for language learners. Indeed, Vanderplank (1988) concludes that captions serve as a useful “mediating device” between dialogue and imagery (p. 280). Moreover, by helping learners cope with difficult input, captions act as a valuable crutch which can increase students’ perceived self-efficacy, and the amount of effort they are willing to invest in trying to comprehend the material (Vanderplank, 2016). A number of recent studies provide empirical evidence supporting the use of captions to encourage vocabulary acquisition. For example, Mitterer and McQueen (2009) found that captioning helps L2 learners by signaling which words are being spoken; Peters, Heynen, & Puimège (2016) highlighted the potential for captions to boost form learning; Sydorenko (2010) concluded that captions helped L2 students recognize word forms and learn word meaning; Winke, Gass, and Sydorenko’s study (2010) revealed that captions helped L2 learners distinguish and parse chunks of speech. Most research focuses on the influence of captions on learners’ awareness of the form-meaning connection, with captioning aiding correct form recognition more than watching video without captions (e.g., Neuman & Koskinen, 1992; Sydorenko,
2010; Montero Perez et al., 2014). Captions also appear to boost low-level learners’ knowledge of word meaning (Baltova, 1999; Sydorenko, 2010; Winke et al., 2010). A significant body of research attests to the importance of captions to aid comprehension and thereby encourage incidental vocabulary uptake.

Although captioned video appears to aid vocabulary acquisition, some studies indicate that the effect of captions may be somewhat limited. For example, Montero Perez et al. (2014) found that caption use had no effect on intermediate learners’ knowledge of correct meaning of words encountered on videos watched. Such findings imply that knowledge of the correct meaning of words encountered is difficult to achieve incidentally (van Zeeland & Schmitt, 2013). Moreover, it has also been noted that captions may not lead to new words being noticed or regarded as novel (Laufer & Yano, 2001; Laufer, 2003). Overall, the research indicates that captions may play a useful, but limited role in helping learners acquire new words while watching audio visual input.

Most research into the effect of captioned videos for incidental vocabulary acquisition has focused on videos of relatively short duration. Indeed, Rodgers and Webb's (2017) recent review of research studies into video input estimate 7 to 30 mins of viewing time was commonly given to students, whereas they argue a longer duration is needed (22 to 42 minutes) for students to gain the necessary large amount of aural input. A number of studies, however, have investigated longer videos (Huang & Eskey, 1999; Markham & Peters, 2003; Montero Perez et al., 2014). For example, Rodgers and Webb’s (2017) study of L2 caption use examined the results of 372 students watching a 10-episode TV series, finding that the captions helped students understand especially difficult episodes. Another large-scale study by Rodgers (2013) also investigated the effect on incidental vocabulary learning of watching a series of 10 episodes of television programs. Raw vocabulary gains on 60 target items taken from the programs scripts showed a significant average gain of six words for the 289 university students who participated in the research. While there have been numerous studies on the effects of short videos, fewer studies have focused on audio-visual material of a substantially longer duration.

Despite some research into longer video duration, relatively little research has been done on the effect of watching movies in their entirety. This seems curious given the popularity of movies in contemporary global culture, and that L2 learners regularly cite movies as a useful language learning resource (Chapple & Curtis, 2000; King, 2002). It appears that there are two main reservations concerning the use of movies. One issue is the idea that language learners need a vocabulary of a certain size for comprehension, and therefore learning, to take place. Nation (2008) states that learners need to know 4000 word families for 95% coverage of the vocabulary in a movie, and that 7000-8000 word families are needed for the desired 98% coverage. However, other researchers have argued that learners can comprehend the input even if they do not meet Nation’s requirements. For example, Van Zeeland and Schmitt (2012) found that adequate comprehension of spoken texts could be achieved with only 90% coverage. Moreover, Webb and Rodgers (2009) argue that movies are an appropriate L2 resource providing learners can draw on a 3000-word family vocabulary. What seems in little doubt is that there is a positive correlation between students’ current L2 vocabulary size and the effectiveness of movies as a vocabulary-learning resource. Indeed, Neuman and Koskinen (1992) explicitly state that the greater the vocabulary a learner possesses the greater the potential vocabulary gains. Overall, it seems that movies may be a suitable source of vocabulary input for students with an already well-established L2 lexicon.

The second problem with using movies as an L2 vocabulary learning resource is the frequency at which individual words occur within a movie script, a significant factor for incidental vocabulary learning (Nation, 2015; Peters, Heynan, & Puimège, 2016). When examining the effect of audio input on vocabulary acquisition, van Zeeland and Schmitt (2013) found that a word needed to be encountered
at least 15 times for it to be learnt. Findings from studies on vocabulary learning from reading have ranged from the 6 (Rott, 1999) to 20 (Waring & Takaki, 2008) encounters being required for vocabulary acquisition to occur. Word frequency may have a similar bearing on video as a source of input for incidental vocabulary uptake. Webb and Rodgers (2009) question whether movies as input for incidental vocabulary uptake offer the language student a high enough word frequency during a single viewing.

Although there are clearly reservations about the use of movies to teach vocabulary, it is possible that the additional contextual clues and the linguistic support offered by captions may help to compensate for these potential disadvantages. As a result, the authors hypothesized that vocabulary gains from watching captioned movies might at least be comparable to those found for extensive reading. Therefore, the aim of the present study was to measure the effect of watching a single captioned full-length movie in L2 on the ability of Japanese students to learn new words taken from the movie script. The following research question was addressed: Does watching a captioned full-length movie in English result in immediate increases in word knowledge for Japanese EFL learners?

Method

The experiment used a repeated measures design with a pre- and post-test, and a control group. The dependent variable was vocabulary gain, defined as the increase in the number words which participants could correctly recall form a list of 42 target items derived from the movie script.

Participants

Convenience sampling was used for the purposes of this study. The participants were 187 native Japanese, undergraduate students at a large university in Japan. All participants had received formal English instruction for at least seven years. Ages ranged from 18 to 23 years old, with 85 male and 102 female participants. Participants were all enrolled in one of seven integrated skills English (EFL) classes, with one of the authors as teacher. Five of these classes were selected at random and used as the experimental group (n=143), and the remaining two classes were used as the control group (n=44). All students were asked to self-report their English proficiency test scores. These ranged from TOEIC 421 to 780, with a mean score of 534.3. However, only 98 (52%) students were able to provide a valid test score taken within the 2-year period prior to the study. There was no significant difference in the mean self-reported test scores between the experimental and control group t(185) = 1.94, p < .01.

Materials

In accordance with Nation’s (2007) conditions for meaning-based input, it was important to select a movie with which the participants were likely to be familiar, to enjoy, and to be motivated by, in order to increase potential vocabulary-learning outcomes. Indeed, Schmidt (2008) points out that learners must be motivated to process the materials because, “even the best materials are little good if students do not engage with them” (p. 338). To ensure that an engaging movie was chosen for the basis of this research, a separate group of 43 Japanese university English language students, from the same institution as those in the main study, were asked to rate the five movies they had watched during an English through Film class. Students were required to rate the movies in terms of their enjoyment on a scale of 0 (not enjoyable) to 100 (very enjoyable). The results are shown in Table 1. The most popular choice was Back to the Future (Zemeckis & Spielberg, 1984) and was therefore chosen as the focus of the present study. Although some of the participants may have watched this movie prior to the study, the use of pre- and post-tests to measure vocabulary gain (see Section 3.3) meant that this was unlikely to affect the results. The selection seemed to be effective because a number of students in the main
study reported informally to the instructor that they had enjoyed the movie.

<table>
<thead>
<tr>
<th>Movie Title</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back to the Future</td>
<td>88</td>
<td>8.6</td>
</tr>
<tr>
<td>Notting Hill</td>
<td>72</td>
<td>11.2</td>
</tr>
<tr>
<td>The Matrix</td>
<td>67</td>
<td>6.5</td>
</tr>
<tr>
<td>Leon the Professional</td>
<td>61</td>
<td>8.2</td>
</tr>
<tr>
<td>Jaws</td>
<td>48</td>
<td>13.8</td>
</tr>
</tbody>
</table>

### Instruments

The movie script from *Back to the Future* was analyzed using a web-based vocabulary profiling application (http://www.lextutor.ca/) to obtain the frequencies of occurrence of the words within the script and within the combined British National Corpus (BNC) and Corpus of Contemporary American English (COCA). This information was then used to inform the selection of words for the focus of the study. A list of words was compiled which, while appearing frequently in the movie, were less likely to be known by participants before watching due to the lower frequency of those words in the corpora. Accordingly, words with a combination of higher frequency in the script and lower frequency in the corpora were given priority. Despite this, 30 of the 42 items in the final list were from the first 1000 most common items in the combined corpora. The number of items by frequency in the corpora and the movie are given in Table 2 (see Appendix A for the full list words).

### Table 2 Test Item Corpora and Script Frequencies

<table>
<thead>
<tr>
<th>Number of items</th>
<th>BNC &amp; COCA frequency</th>
<th>Movie frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>K-1</td>
<td>215</td>
</tr>
<tr>
<td>5</td>
<td>K-2</td>
<td>42</td>
</tr>
<tr>
<td>5</td>
<td>K-3</td>
<td>21</td>
</tr>
<tr>
<td>2</td>
<td>K-4</td>
<td>12</td>
</tr>
<tr>
<td>42</td>
<td>-</td>
<td>290</td>
</tr>
</tbody>
</table>

Two dependent measures, identical pre- and post-tests, were used to measure vocabulary gains. There were 42 items on the test; one for each of the target words. All items used a productive recall translation measure of the form-meaning connection (Nation & Webb, 2011). This test format was adopted because it measures whether learning has occurred in terms of meaning recognition, the kind of knowledge used during natural reading (Waring & Takaki, 2003). Each item included a Japanese translation of the target word, a contextual sentence in English generated by the authors, with the target word omitted, and the head letter of the target word (see Table 3). The head letter was provided in an effort to prevent participants from producing synonyms for target answers and thereby confounding the results. Participants were required to recall the form of the target item matching the meaning provided in L1. The L1 translations were checked by a native Japanese, also fluent in English. The tests were administered in paper format in order to permit a degree of flexibility for misspelt answers. As a rule, one letter per item was permitted to be misspelt. Both American and British spellings of answers were accepted. All conjugates of the target headword were accepted as correct. Taking the target word *calculate* as an example, *calculated, calculating, calculates* were all acceptable answers. In addition, all forms of part of speech, as in *calculation* for example, were also deemed correct. Appendix B shows a complete list of all the test items.
Table 3 Sample Test Item

<table>
<thead>
<tr>
<th>L1 prompt</th>
<th>Contextual L2 prompt</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>計算する</td>
<td>I c________________ that the total price will be 21,000 yen.</td>
<td>calculate</td>
</tr>
</tbody>
</table>

Procedure

The experiment was conducted during the thirteenth and fourteenth classes of seven integrated skills English (EFL) university courses. A gap of two days separated sessions 1 and 2 (Tables 4 & 5). The students met for class twice-a-week during the 15-week semester, however other classes did not include any material or activities relating to the movie used in this research. During the pre- and post-tests, participants were not permitted to have anything on their desk except a pen or pencil. One test was distributed by the instructor to each student. Students were allowed 15 minutes to complete each test. For each test, the instructor demonstrated how to answer the questions with an example (not taken from the test) on display at the front of the classroom. Students were not permitted to talk or look at their peers' work during the test. After each test, papers were collected by the instructor and students were told not to discuss the test.

Experimental Group

After the pre-test, participants watched the first 60 minutes of Back to the Future. Captions in English were included to aid students’ comprehension. Before watching the first instalment, students were given a sheet of paper with five true or false content-based questions, in Japanese, based on the events of the first half of the movie. Students were asked to read through the questions before viewing. After viewing, pairs of students checked their answers to the questions before the teacher read aloud the correct answers to the class. At the beginning of the second session, pairs of students tried to recall the plot so far (in Japanese), in order that upon commencing the second instalment they could more readily assimilate unfolding events neatly into the freshly recalled narrative. It also helped to clarify points of confusion for students who had not fully understood the first half of the movie. Before watching the second half of the movie, students were again presented with five true or false questions in Japanese about the second half of the film content. There was no explicit language instruction from the teacher at any stage. Directly after the movie had finished, the post-test was administered. Then the teacher read aloud the correct answers for the five comprehension questions.

Table 4 Experimental Group Procedure

<table>
<thead>
<tr>
<th>Session</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-test</td>
</tr>
<tr>
<td>1</td>
<td>Participants receive 5 true / false questions (Japanese)</td>
</tr>
<tr>
<td></td>
<td>Movie first half: 0-60 minutes</td>
</tr>
<tr>
<td></td>
<td>Participants check answers together</td>
</tr>
<tr>
<td></td>
<td>Instructor reads true / false answers to the class</td>
</tr>
</tbody>
</table>

Two Day Interval

<table>
<thead>
<tr>
<th>Session</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>In pairs, participants discuss the story so far (in Japanese)</td>
</tr>
<tr>
<td></td>
<td>Participants receive the 5 true / false questions (Japanese)</td>
</tr>
<tr>
<td></td>
<td>Movie second half: 60-116 minutes</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
</tr>
</tbody>
</table>
Control Group

Using identical pre- and post-tests meant that there was a potential learning effect of the target vocabulary due to taking the pre-test. Any such effect would have an undesirable distorting effect on the results of the post-test. In order to account for this, a control group was used to check for any testing-effect. Accordingly, the pre- and post-tests were administered to the 44 students in the control group under identical conditions as those in the experimental group. However, the control group did not receive any treatment (i.e. they did not watch Back to the Future between the pre- and post-test). Like the experimental group, the pre-test was administered in class 1, and the post-test at the end of class 2 (Table 5). During the intervening class time, students participated in their usual class activities and did not study any materials relating to the Back to the Future movie, nor vocabulary from the pre- and post-tests.

Table 5 Control Group Procedure

<table>
<thead>
<tr>
<th>Session</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pre-test</td>
</tr>
<tr>
<td></td>
<td>English Language Learning Activities (unrelated to the movie used with the experimental group)</td>
</tr>
<tr>
<td></td>
<td>Two Day Interval</td>
</tr>
<tr>
<td>2</td>
<td>English Language Learning Activities (unrelated to the movie used with the experimental group)</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
</tr>
</tbody>
</table>

Results

A paired-samples $t$-test was conducted to evaluate whether there was a significant change in control group participants’ scores between the pre- and post-tests. The mean score for the pre-test was 30.07 ($SD = 4.06$), and for the post-test was 30.39 ($SD = 4.62$). There was no significant difference between the two scores: $t(43) = 0.25$, $p > .01$. The gain scores for the control group, $D(44) = .26$, $p < .05$ was significantly normally distributed. A summary of the results can be viewed in Table 6. It is reasonable to conclude that there was no significant impact of the pre-test on the post-test scores and that any increase in vocabulary gains in the experimental group would not be due to the effect of taking the pre-test.

Table 6 $t$-test Results for Equality of Means

<table>
<thead>
<tr>
<th></th>
<th>Pre-Test</th>
<th>Post-Test</th>
<th>$t$-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Experimental Group (n=143)</td>
<td>30.07</td>
<td>4.06</td>
<td>30.39</td>
</tr>
</tbody>
</table>

* $p > .01$
Experimental Group

A paired-samples t-test was conducted to evaluate whether there was a significant increase in students’ ability to recall words taken from the movie script directly after watching the movie. The mean number of words recalled before viewing from the list of 42 target words was 29.55 (SD = 6.540), and immediately after viewing increased to 31.32 (SD = 6.173), and the difference between the two means was significant: t(142) = 7.79, p < .01. The mean vocabulary gain was 1.77 words (SD = 2.7) per student, and the 95% confidence interval for the mean difference between pre- and post-test scores was 1.32 to 2.21. The vocabulary gain scores for the experimental group, D(143) = .00, p <.05, was significantly non-normally distributed. However, the large size of the group (n=143) means that the results of the t-test remain valid. A summary of the results can be viewed in Table 7. Since no significant vocabulary gain was observed for the group who did not watch the movie, this result indicates that watching the movie resulted in incidental vocabulary learning, at the level of meaning recall, had occurred within the experimental group.

Table 7 t-test Results for Equality of Means

<table>
<thead>
<tr>
<th></th>
<th>Pre-Test</th>
<th>Post-Test</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Experimental Group (n=143)</td>
<td>29.55</td>
<td>6.54</td>
<td>31.32</td>
</tr>
</tbody>
</table>

*p<.01.

Discussion

The analysis revealed a significant mean gain of 1.77 (4.2%) words per student from the list of 42 words attributable to watching the movie. As hypothesized, this result suggests that watching movies with captions can result in modest levels of incidental vocabulary learning. The result is similar to the findings of Vidal (2003) and Rodgers (2013), although these studies differed somewhat in their design. Vidal’s research was based on an academic lecture and was more narrowly focused as it centered on only 12 words taken from the script. Rodger’s experiment was more longitudinal than the current study, measuring incidental vocabulary gains from viewing ten television episodes. In terms of vocabulary gains from extensive reading, our results show a much smaller gain than the 18.4% found by Waring and Takaki (2003) in their immediate translation post-test, however our results are comparable to the 7.6% vocabulary gain found by Hulstijn (1992).

Interpretation

The apparently low gains found in the present study may be due to the relatively low frequency of target vocabulary in the movie script, and the low quality of attention to new vocabulary while watching a movie with captions. In his 2015 article on incidental vocabulary gains from extensive reading, Nation identifies “the number of meetings with each word and the quality of attention at each meeting” (p. 136) as key learning conditions. If Nation’s reasoning is applied to vocabulary learning from watching a movie, then it seems reasonable to suggest that the low gains observed in the present study may be attributable to the same two factors. Firstly, there was a relatively low frequency of target words in the movie's script. Indeed, 27 of the 42 words tested appeared only five times or less in the script, and therefore did not meet Rott’s (1999) finding that (while reading) new words need to be encountered six times or more in order to be acquired. Moreover, only four of the target words met van Zeeland and Schmitt's (2013) requirement of at least 15 encounters. Consequently, the current study’s findings support Webb's (2010a) assertion that watching a movie only once is unlikely to lead
to significant vocabulary acquisition due to the limited number of times learners will encounter new vocabulary. The second key learning condition for vocabulary acquisition through reading identified by Nation (2015) is the quality of the encounters with a word in terms of whether the learner is focusing on “the message being communicated” or “aspects of knowing a word” (p.136), with the latter indicating a higher quality of encounter. In the current study, the attention of the learners was not drawn to the meaning of each word, instead the students were simply focusing on understanding the movie. Although these two factors seem to account for the low rate of vocabulary acquisition found in the present study, there may be ways to address these issues in the language classroom.

Implications

Language teachers could address the problems of low frequency target vocabulary and the quality of vocabulary encounters in a number of ways. Firstly, it is possible to ensure that students have more opportunities to encounter the target vocabulary. For example, this could be done by having students watch the movie more than once, or by repeating short sections of it. In addition, the teacher could focus students’ attention on the vocabulary during pre-viewing discussions or perhaps targeting the vocabulary deliberately, for example using vocabulary flashcards. During post-viewing activities, the number of encounters could also be increased by having the learners read sections of the movie’s script as reading comprehension exercises. Extension activities could include working in small groups and having students select a favorite scene from the movie, they would then assign roles and act out the scene in front of the rest of the class. Such activities would increase the number of encounters the students have with the target vocabulary and thereby facilitate its acquisition. Second, by increasing the attention learners pay to the new vocabulary, teachers could help address the transient nature of encounters with target vocabulary while watching movies. This might be achieved through pre-teaching strategies that provide L2 learners with initial exposure to new word meaning (Chai & Erlam, 2008; Webb, 2010b) or by using different types of captions (keyword captions, highlighted word captions, and full captions), to help learners notice new words and understand their meaning (Montero Perez et al., 2014). Indeed, a recent study by Montero Perez, Peters and Desmet (2017) discovered that glossed keyword captions significantly boosted the initial form-meaning connections made, and her team recommend the use of glossed captions as an important aid to L2 learners comprehension. These classroom approaches could help teachers tackle the low frequency of target words, and the typically low-quality word-encounters associated with simply watching a movie.

Limitations

Although the results provide support for the hypothesis that watching movies leads to modest incidental vocabulary gains, the present study has certain limitations. In focusing exclusively on productive vocabulary recall, one of the later stages in the acquisition process, participants’ knowledge of the new vocabulary was not probed in depth, whereas many recent studies employ measures sensitive enough to detect changes in the different levels of word knowledge (e.g., Vidal 2003, 2011; Waring & Takaki, 2003; Pigada & Schmitt, 2006; Pellicer-Sánchez & Schmitt, 2010; van Zeeland & Schmitt, 2013). Moreover, without a delayed post-test, the retention of the new words remains unexplored. Another issue is that the study could not examine how English proficiency level influenced the rate of incidental vocabulary acquisition as precise information about many students' proficiency level was unobtainable. A further limitation is that due to the design of the study it was not possible to ascertain whether vocabulary acquisition was affected by the number of times a word was encountered. Finally, to ensure ecological validity the research was conducted in regular university classes, but as the pre-tests and post-tests had to be conducted in separate classes it is possible that some students re-watched the film at home or reviewed the vocabulary items on the tests.
Further Research

To build on the findings of the present study, future research into incidental vocabulary learning through watching feature-length movies should include more sensitive measures of vocabulary learning, and a focus on the effects of captioning. First, it would be useful to repeat the current study using instruments which measure a broader range of vocabulary knowledge dimensions, such as those used by van Zeeland and Schmitt (2013), which along with meaning recall also examine form and grammar recognition. This would provide a richer and more detailed picture of the process of vocabulary acquisition while watching movies. Second, it would also be worthwhile investigating the degree to which captions or subtitles assist incidental vocabulary learning while watching full-length movies. Further research should examine rates of vocabulary acquisition when watching movies under different captioning conditions, such as with and without captions / subtitles. Also, while the effect of glosses of key words on vocabulary acquisition has already been researched in reading contexts (Kost, Foss, & Lenzini 1999; Vela, 2015), researchers have yet to experiment with caption glosses for movie-viewing.

Conclusion

The purpose of the present study was to investigate incidental L2 vocabulary learning from watching a movie in L2 with L2 captions. The analysis revealed a significant mean gain of 1.77 words per student (4.2%). As hypothesized, the results suggest that watching full-length movies can result in slight levels of incidental vocabulary learning.

Although the study focused on productive recall of vocabulary knowledge, one of the later stages in the acquisition process, the gains observed nevertheless indicate that vocabulary knowledge had been pushed along the acquisition continuum, and this process was attributable to the experimental treatment (i.e. watching the movie). Therefore, however blunt the measures of incidental vocabulary gains used in this study, the findings still suggest that movie watching can lead to some incidental vocabulary gains. Given the need for learners to exploit ways to boost incidental vocabulary learning, and the widespread availability and popularity of movies, the findings from this study are particularly relevant and encouraging, in indicating the potential of movies as a means of vocabulary learning.

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Author Biodata

**Bob Ashcroft** currently teaches English and Intercultural Communication for the Department of International Communication at Tokai University in Japan. His work focuses specifically on computer-assisted language learning, vocabulary acquisition, and project-based learning curriculum design. Bob has taught English in Poland, Germany, and Cambodia. You can find out more at: http://bobashcroft.com.

**Joe Garner** teaches on the English for Liberal Arts Program at International Christian University in Japan. His research interests include the effectiveness of peer feedback in L2 writing classes, the use of authentic materials in foreign language instruction, and approaches to vocabulary instruction.

**Oliver Hadingham** is a lecturer at Rikkyo University, in Tokyo, Japan. His research interests include CALL and modern British history. His work has appeared in *Applied Linguistics, Journal of Second Language Writing, European History Quarterly, Twentieth Century British History*, and *History: The Journal of the Historical Association*. 