Investigate Effect of Video Captioning on Iranian Intermediate EFL Learners’ Vocabulary Acquisition

Leyla Nekoui

Leyla Nekoui
Islamic Azad University
Isfahan Branch, Iran

Abstract: The present study aimed to a) investigate effect of video captioning on Iranian intermediate EFL learners’ vocabulary acquisition, b) To investigate the effect instruction through subtitled movies on Iranian intermediate EFL learners’ vocabulary acquisition, and c) compare the effects of video captioning versus subtitled videos on intermediate Iranian EFL learners’ vocabulary acquisition. To achieve these aims, 60 Iranian EFL learners who were learning English in a language institute in Isfahan participated in the study. The participants were divided into two equal groups. Each group consisted of 30 EFL learners. The first group was taught via video captioning while the second group was taught by means of subtitled videos. The participants’ level of proficiency was assessed via Oxford Placement Test (OPT). In this study, the Word Up Assessment Test Level Turquoise was used by the researcher. The test consisted of 25 multiple-choice which was given to the participants before the treatment as the pretest and after the treatment as the posttest. The pretest was given to the participants before the treatment. The first group was taught via Connect with English and the second group was taught by means of Family Album USA. In each session, one or two episodes of the movies were used in the class. After completing the treatment, the posttest was given to the participants. The results indicated that video captions had a significant effect on the participants’ vocabulary knowledge. Moreover, subtitled videos had a significant effect on the participants’ vocabulary knowledge. Furthermore, there was not a significant difference between the effects of captions and subtitles on the participants’ vocabulary knowledge. Results of the study offer implications for teaching vocabulary and use of movies in EFL classrooms.

Keywords: Caption, Subtitles, Video, Vocabulary, Vocabulary Learning.
1. Introduction

Videos have long been used in class by teachers of different fields and at all levels of schooling (see for example Frazier and Boehm (2012) for geography, Mathews, Fornaciari, and Rubens (2012) for management, and Efthimiou and Llewellyn (2004) for science) and are a type of learning material that is greatly valued by learners (Kluzer, Ferrari, & Centeno, 2011). Audiovisual material (with or without subtitles) has also been employed in content-based teaching in a foreign language (see for example Kumar and Scarola (2006) and Mahlasela (2012). It is clear that L2 learners have problems with decoding native speech when exposed to real input. Consequently, providing captions assistance could help learners to connect the written words to their actual speech.

In summary, video captioning is an influential educational tool that can simplify vocabulary learning and listening comprehension. Multimedia technology has improved the video mode by adding addition navigational tools that learners can use to rewind, pause, replay, and segment video clips. The findings of the study by Hsu, Hwang, Chang, and Chang (2013) indicated that captioning supports vocabulary development and listening comprehension.

Vocabulary learning develops a fundamental and an important part of English language learning (Cameron, 2003). Without having suitable vocabulary knowledge, it is hard to study grammar, speaking, listening, writing, and other language skills. For the development of English language proficiency, vocabulary knowledge is indispensable and essential. Many experts in the field of TEFL believe that the best way of learning vocabulary is incidental learning (Ahmad, 2012; Day, Omura, & Hiramatsu, 1991; Hulstijn, 2001; Paribakht & Wesche, 1999; Shi, 2008; Waring & Nation, 2004; Webb, 2008; Yoshii & Flaitz, 2002; Zhang, 2000).

In English classes, nearly most of the students have problems with learning and memorizing different types of vocabulary and idioms. Even students with considerable amount of English knowledge sometimes do weakly in different types of lexicon tests. In Iran, learning English (as foreign language) is just limited to the classroom activities, so there is no opportunity to learn English in the society and communication with other people. Furthermore, Iranian students start learning English at their secondary school. Using different techniques and strategies have been examined for effective vocabulary teaching, including definitions, demonstration, translation, and other traditional and more recent techniques. Among the more recent ones, some new and interesting instruments can help students to learn and enjoy English such as video, games, or music in the process of learning.

Subtitles or captions can help language learners to understand movies and consequently learn vocabulary incidentally more effectively. Therefore, an attempt was made in this study to investigate the effects of watching captioned movies on learning English vocabulary by Iranian EFL learners. Based on this introduction the following research questions are proposed:

1) Does video captioning have a statistically significant effect on Iranian intermediate EFL learners’ vocabulary acquisition?
2) Does instruction through subtitled movies have a statistically significant effect on Iranian intermediate EFL learners’ vocabulary acquisition?
3) Is there any significant difference between using video captioning versus subtitled videos in terms of their effects on vocabulary acquisition among Iranian EFL learners?

2. Literature Review

2.1 Vocabulary and Vocabulary Learning

Vocabulary is commonly defined as a system of words with their meaning explanations. A word is implied as a series of characteristics in which there is the mixture of its meaning, association, collocation, grammatical behavior, written form (spelling) (Schmitt, 2000). According to Richards and
Schmidt (2010), vocabulary is defined as a set of lexemes, including single words, compound words and idioms.

The term vocabulary is challenging to be defined and there has not been an undivided agreement among linguists on defining it up until now. According to Stahl (2005, p. 94), “yet up till now, there has been no definition that describes fully the characteristics of vocabulary.” Other scholars have provided different definitions of vocabulary. For instance, Williamson (2014) defined vocabulary as a set of words a particular person, group of people, socioeconomic group, profession, and so on, knows and uses. The active vocabulary is all the words used expressively (in writing, speaking, or signing) and the passive vocabulary is all the words recognized and understood, although not necessarily used expressively. An adult’s passive vocabulary is about one third larger than their active vocabulary (Crystal, 2006).

The fundamental role of vocabulary knowledge in English as in the application of instructional and educational a foreign language (EFL) learning has been more and more noticed (Iheanacho & Iheanacho Jr, 1997). Alqahtani (2015) maintained that language teachers largely recognize the importance of vocabulary learning and are exploring the ways to promote it more effectively. According to Laufer (1997), vocabulary learning is at the heart of language learning and language use. In fact, it is what makes the essence of a language. Vocabulary learning is very important since it helps EFL learners improve their listening, speaking, reading and writing skills and may eventually improve comprehension and production in the L2 by vocabulary learning (Gorjian, Moosavinia, Ebrahim Kavari, Asgari, & Hydarei, 2011).

As a result, it is important for researchers to investigate ways to improve direct instruction of foreign language vocabulary. Therefore, how to teach vocabulary and use it in a productive way have become main interests of learners in addition to teachers.

### 2.2 Use of Videos in Vocabulary Learning

Markham and Peter (2003) investigated the effects of using Spanish captions, English captions, or no captions with a Spanish language soundtrack on intermediate university-level Spanish as a Foreign Language students’ listening/reading comprehension. A total of 169 intermediate (fourth-semester) students predicated as intact groups in the study. The passage material consisted of a 7-minute DVD episode about preparation for the Apollo 13 space-exploration mission. The students viewed only one of three passage treatment conditions: Spanish captions, English captions, or no captions. The results revealed that the English captions group performed at a considerably higher level than the Spanish captions group, which in turn performed at a substantially higher level than the no captions group on the listening test.

Peters et al. (2016) investigated the effect of L1 subtitles and captions on different aspects of word knowledge among EFL learners in Flanders (Belgium). Data were collected in two different educational settings: intermediate EFL learners from a general school and low-proficiency EFL learners from a vocational school. Although learning gains were generally low, results indicated that captions have the potential to increase form learning. However, learners who were exposed to the audiovisual input with L1 subtitles did not perform better than the captions group in the tests focusing on the meaning of the target items. Additionally, findings also suggested that learners’ vocabulary size and an item’s frequency of occurrence in the video clip correlated positively with word learning.

Mahdi (2017) investigated the effect of implementing keyword video captioning on L2 pronunciation using mobile devices. To this end, 34 Arab EFL university learners participated in this study. They were randomly assigned to two groups (key-word captioned video and full captioned video). The results indicated that keyword captioning is a useful mode to improve learner’s pronunciation. The results indicated that there was no statistically significant difference between the two modes of captioning on vocabulary learning. However, learners at keyword video captioning performed better that full video captioning.
Mardani and Najmabadi (2017) investigated the effect of different types of subtitles on incidental vocabulary learning among Iranian EFL learners. To this end, 60 high school students in Behbahan were selected after taking a proficiency test. The test was administered to ensure participants’ homogeneity. Participants were randomly assigned to three experimental groups, namely, Bimodal group (A), Standard group (B) and Reversed group (C). They watched ten video clips selected from three animated movies with different types of subtitles: A) Bimodal subtitles (both English audio and subtitle), B) Standard subtitles (English audio and Persian subtitle) and C) Reversed subtitles (Persian audio and English subtitle). The results obtained from the test showed that participants in reversed subtitling group performed significantly different and learned more new vocabulary items.

Jelani and Boers (2018) examined whether aurally presented test prompts yield equally compelling evidence for the superiority of captioned over uncaptioned video. Intermediate EFL learners watched a ten-minute TED Talks video either with or without captions and were subsequently given a word recognition and a word meaning test, with half of the test prompts presented in print and the other half presented aurally. While the results of the word recognition test were inconclusive, the word meaning test yielded significantly better scores by the group that watched the captioned video. However, this was due entirely to their superior scores on the printed word prompts, not the aural ones.

3. Results
3.1 Results of the OPT

An OPT was given to the participants to evaluate their level of proficiency and to make sure they were all at the same level.

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caption</td>
<td>30</td>
<td>33.90</td>
<td>1.415</td>
</tr>
<tr>
<td>Subtitle</td>
<td>30</td>
<td>34.22</td>
<td>1.417</td>
</tr>
</tbody>
</table>

Table 1 shows the descriptive results of the OPT. It can be noted that the difference between the groups was not considerable although the subtitle group (M = 34.22, SD = 1.42) outperformed the caption group (M = 33.90, SD = 1.42). To make sure that this difference was not statistically significant, independent samples t-test was run.

<table>
<thead>
<tr>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>.789</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
</tr>
</tbody>
</table>

According to the table, the difference between the mean scores was not statistically significant since the p value was greater than .05 (t(58) = - .88, p = .384). Therefore, all participants were at the same level of general English knowledge.
3.2 Results of the Pretest

A vocabulary pretest was given to the participants before the treatment to make sure there were not any significant differences among the participants’ English vocabulary knowledge.

Table 3. Descriptive Results of the Pretest

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caption</td>
<td>30</td>
<td>16.17</td>
<td>2.520</td>
</tr>
<tr>
<td>Subtitle</td>
<td>30</td>
<td>15.99</td>
<td>2.151</td>
</tr>
</tbody>
</table>

Table 3 shows the descriptive results of the pretest. It is obvious that the difference between the groups was subtle although the caption group ($M = 16.17$, $SD = 2.52$) performed better than the subtitle group ($M = 15.99$, $SD = 2.15$). To make sure that this difference was not statistically considerable, independent samples $t$-test was run.

Table 4. Results of the Independent-Samples $t$-Test for the Pretest

<table>
<thead>
<tr>
<th>Levene's Test for Equality of Variances</th>
<th>$t$-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>$F$</td>
<td>$Sig.$</td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>.564</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
</tr>
</tbody>
</table>

According to Table 4, the difference between the mean scores was not statistically significant because the $p$ value was greater than .05 ($t_{(58)} = .29$, $p = .773$). Therefore, the participants’ vocabulary knowledge was at the same level.

3.3 Addressing Research Question One

The first research question was proposed to investigate the effect of video captioning on Iranian intermediate EFL learners’ vocabulary acquisition. To this end, the results of the participants in this group on the pretest and the posttest were compared with each other. The results are shown in detail in the following table and figure.

Table 5. Descriptive Results of the Caption Group

<table>
<thead>
<tr>
<th>Pair 1</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>16.17</td>
<td>30</td>
<td>2.520</td>
</tr>
<tr>
<td>Posttest</td>
<td>21.18</td>
<td>30</td>
<td>1.917</td>
</tr>
</tbody>
</table>

The table indicates the mean scores and standard deviations of the caption group on the pretest ($M = 16.17$, $SD = 2.52$) and the posttest ($M = 21.18$, $SD = 1.92$). It can be noticed that the participants considerably performed better on the posttest. The paired-samples $t$-test was conducted to assess if this difference was also statistically significant.
Table 6. Results of the Paired Samples t-Test for the Caption Group

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td>Pretest - Posttest</td>
<td>-5.018</td>
</tr>
</tbody>
</table>

According to Table 4.6, the difference between the mean scores of the pretest and posttest was statistically significant because the p value was lower than .05 ($t_{(29)} = -8.29, p < .001$). Therefore, video captions had a significant effect on the participants’ vocabulary knowledge. The difference in the mean scores between the pretest and posttest was -5.02 with the 95% confidence interval ranging from -6.26 to -3.78. The result of Cohen’s $d$ computation was 1.52 indicating that the captions had a large effect on the participants’ vocabulary knowledge. The difference between the mean scores is also shown in the following figure.

![Figure 1. Mean Scores of the Caption Group on the Pretest and Posttest](image)

3.4 Addressing Research Question Two

The first research question was proposed to investigate the effect of subtitled videos on Iranian intermediate EFL learners’ vocabulary acquisition. To this end, the results of the participants in this group on the pretest and the posttest were compared with each other. The results are shown in detail in the following table and figure.
The table indicates the mean scores and standard deviations of the subtitled group on the pretest ($M = 15.99, SD = 2.15$) and the posttest ($M = 21.25, SD = 2.03$). It is obvious that the participants noticeably performed better on the posttest. The paired-samples $t$-test was conducted to assess if this difference was also statistically significant.

According to Table 8, the difference between the mean scores of the pretest and posttest was statistically significant because the $p$ value was lower than .05 ($t_{(29)} = -12.08, p < .001$). Therefore, subtitled videos had a significant effect on the participants’ vocabulary knowledge. The difference in the mean scores between the pretest and posttest was -5.26 with the 95% confidence interval ranging from -6.15 to -4.37. The result of Cohen’s $d$ computation was 2.21 indication that the subtitles had a large effect of the participants’ vocabulary knowledge. The difference between the mean scores is also illustrated in the figure below.

![Figure 2. Mean Scores of the Subtitle Group on the Pretest and Posttest](image-url)
3.7 Addressing Research Question Three

The third research question was posed to investigate whether there is a significant difference between using video captioning versus subtitled videos in terms of their effects on vocabulary acquisition among Iranian EFL learners.

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caption</td>
<td>30</td>
<td>21.18</td>
<td>1.917</td>
</tr>
<tr>
<td>Subtitle</td>
<td>30</td>
<td>21.25</td>
<td>2.032</td>
</tr>
</tbody>
</table>

Table 9 indicates the descriptive results of the posttest. It is clear that the difference between the groups was inconsiderable although the subtitle group ($M = 21.25, SD = 2.03$) performed better than the caption group ($M = 21.18, SD = 1.92$). To make sure that this difference was not statistically significant, independent samples $t$-test was conducted.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Levene's Test for Equality of Variances</th>
<th>$t$-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$F$</td>
<td>Sig.</td>
</tr>
<tr>
<td>Posttest</td>
<td>Equal variances assumed</td>
<td>.034</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td></td>
</tr>
</tbody>
</table>

According to Table 10, the difference between the mean scores was not statistically significant because the $p$ value was greater than .05 ($t_{(58)} = -.13, p = .895$). Therefore, there was not a significant difference between the effects of captions and subtitles on the participants’ vocabulary knowledge.

4. Discussion

Captioned video and audio materials for L2 learning are becoming more common. The most useful auxiliary for watching videos are captions (Hsu, 1994). Bird and Williams (2002) claimed that captioning is a very beneficial language learning tool by looking at how a bimodal presentation (aural and visual) of new words affected the learning of the words. Captions can increase the students’ knowledge of the target language and enhance language learning by the use of new lexicons and phrases in an appropriate context. This view is supported by Vanderplank (1993) and Stewart and Pertusa (2004).

These viewpoints are also confirmed with the findings of the present study. as stated by various researchers (Baleghizadeh & Nasrollahy Shahry, 2011; Gu, 2003; Kaivanpanah & Zandi, 2009; Webb, 2008), English words are learned much better if they are presented in a suitable context. Captioned videos are the tools that provide this needed context effectively for language learners. Based on the previous studies on vocabulary development, one might argue that contextualization in vocabulary teaching might be a source of improvement. The results of the study might have provided evidence to the assumption that incidental or indirect learning of vocabulary can be achieved by resorting to contextual cues (Duquette & Painchaud, 1996).

The findings of the present study are in consistent with the results of the previous research on this realm. Markham and Peter (2003) investigated the effects of using Spanish captions, English captions, or
no captions with a Spanish language soundtrack on intermediate university-level Spanish as a Foreign Language students’ listening/reading comprehension. The results revealed that the English captions group performed at a considerably higher level than the Spanish captions group, which in turn performed at a substantially higher level than the no captions group on the listening test. These findings indicate that captioned videos are useful materials for teaching English vocabulary and facilitate vocabulary learning for students.

Movies are great sources for learning vocabulary because they expose language learners to authentic language. Nevertheless, most English movies are not understandable for most language learners because the level of language and the speed of talking are very high in the movies. This is the reason that movies cannot be used practically for teaching and learning English words because understanding is the base of learning words. Therefore, a method must be used to solve this problem and make movies understandable for learners. One of these methods is using subtitles. Subtitles help learners understand the movie and learn vocabulary more effectively from them. This point of view is confirmed by the findings of the study because the group that was taught by subtitled movies outperformed in comparison with the other group.

The findings of the current study are in line with the results of the previous studies. Fazilatfar et al. (2012) investigated the effect of watching TV programs on incidental vocabulary learning in three different conditions: standard subtitles, reversed subtitles and without subtitles. 45 participants randomly assigned to three experimental groups participated in their pretest-posttest design study. The results of their study demonstrated the superiority of reversed subtitled TV programs over standard subtitled and non-subtitled TV programs in terms of enhancing reader’s learning of unknown words.

5. Conclusion

From the results of the study can be maintained that viewing the movies have helped the participants of the current study foster their vocabulary knowledge irrespective of the existence or nonexistence of captions and subtitles. This is important information supporting incidental learning. According to the results of the study, the participants made significant improve in their vocabulary knowledge after viewing the movies whilst concentrating on the meaningful flow of conversations. The improvement that was viewed supported the opinion that vocabulary acquisition is a process that happens along a continuum (Schmidt, 2001; Wesche & Paribakht, 1996). However, it should not be forgotten that learning a new word requires several exposures to the word in different forms (Horst, Cobb, Cobb, & Meara, 1998; Schmidt, 2001).

The study offered evidence that captions and subtitles facilitate vocabulary learning as confirmed by previous research. The findings of this study can be beneficial to teachers to utilize subtitled and captioned movies as a part of teaching material in their classes. The study can give them the opportunity to improve their students’ both receptive and productive words via employing subtitled and captioned videos in EFL classrooms. To learners, this study can recommend that they dedicate more time to watching movies with subtitles and captions so that they can boost their other language skills in addition to their vocabulary knowledge. The study recommends language learners to watch subtitled and captioned movies if they are interested in improving different language skills i.e., speaking, listening, writing, and reading as well as vocabulary knowledge simultaneously.

6. References


Zambrut Access
https://zambrut.com
https://zambrut.com/video-captioning/

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