

The Journal of Language Teaching and Learning, 2011–1(2), 18-29

Movie Subtitles and the Improvement of Listening Comprehension Ability: Does it help?

Mehdi Latifi, Ali Mobalegh, Elham Mohammadi*

Abstract

The present study attempted to capture the possible effects of movie subtitles on the improvement of listening comprehension. The participants were 36 Iranian intermediate learners assigned into three groups: Bimodal-Subtitles Group (BSG), Standard-Subtitles Group (SSG) and No-Subtitles Group (NSG). During the course, each group worked on fifteen-2-minute sections of a movie entitled 'Alvin and Chipmunks.' At the end of each session, a Multiple Choice (MC) Comprehension test was given to the learners. In the last session, all participants sat on an IELTS test. The results of the data analysis revealed that for MC tests the subtitles groups outperformed the NSG, and SSG performed better than the BSG; however, on the IELTS test the NSG performed significantly better than the SSG, and there was no meaningful difference between NSG and BSG. Overall, the analysis of groups' performance revealed a better mean score for the NSG compared to other groups.

Keywords: Bimodal subtitling, listening comprehension, movie subtitles, standard subtitling

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1. Introduction

Listening is one of the most important skills for second language learners. As Vandergrift (2003) pointed out, giving pre-eminence to listening comprehension, particularly in the early stages of second language teaching/learning, provides learners with cognitive advantages. The advantage of early emphasis on listening comprehension follows a more naturalistic approach to language acquisition. According to Vandergrift (1999), forcing the learners to produce the forms that they have not yet acquired well will lead to cognitive overload because they are not ready to utilize the information. In addition, too much emphasis on speaking leaves little room for listening to the extent that Field (1998) called it the Cinderella sister of speaking. Consequently,

* The University of Isfahan, Iran, email: smm_latifi@yahoo.com, ali_mobalegh@yahoo.com, elham.m85@gmail.com.

many L2 learners complain about their inability to understand native speakers and real life conversations.

Although teaching listening came to fashion in the 1960s and gained momentum with Krashen's idea of comprehensible input in 1980, it has experienced a process of back and forth (Field, 1998). With the advent of technology in the 1980s, however, integration of visual materials in language classrooms became widespread (Vanderplank, 2010), and listening instruction experienced a new era of popularity. In addition, with the inception of communicative approaches and utilization of more authentic texts (Gilmore, 2007), the need to find a good way to exploit audiovisual materials to their full potential has been urgently felt. In recent years, therefore, with well-equipped language laboratories and classrooms, visual materials have become an inseparable part of language classrooms. Satellite programs, feature films, talk shows and so forth have become a daily part of people's life and the demand for improvement of listening comprehension has soared. All these changes have resulted in the incorporation of more off-air authentic visual recordings in classrooms, which consequently have encouraged language teaching experts to make best use of available technology. However, soon it became clear that without a help option, understanding these ungraded materials is very cumbersome, as most learners lacked sufficient linguistic knowledge (Flowerdew & Miller, 2005). To compensate for this gap, the use of subtitles and captions has been suggested since they could assist learners by allowing dual processing of input (Field, 2004). It is believed that in case of comprehension breakdowns, reading the subtitles can help understanding (Garza, 1991).

However, for many years, the efficiency of captions and subtitles has been a point of discussion, and many researchers have attempted to find out their value in enhancing listening comprehension (Hayati & Mohmedi, 2011). Despite the bulk of research conducted on the efficacy of subtitles and captions, no consensus has been achieved yet. Hence, more studies are required to investigate this issue, which gives a further significance to the present study.

1.1 Previous Literature on Captioning and Subtitling

In the literature on movie subtitling and captioning, there is controversy over the effects of these help options on the listening comprehension ability of language learners (Danan, 2004). Nonetheless, the studies that support subtitling have usually demonstrated improvement in two major areas: a higher level of comprehension and better vocabulary recognition ability.

In terms of comprehension, several studies have reported a significant improvement in the listening comprehension of language learners after being exposed to the captioned/subtitled movies. For example, Markham (1989) investigated the effects of subtitled TV programs on the listening comprehension of beginner, intermediate and advanced learners of English. He used two subtitled videos on topics not known to the learners. Each group viewed both movies with and without subtitle. Measuring the participants' comprehension by some multiple-choice questions, he found that all three groups using the subtitles performed significantly better. In another study, Garza (1991) compared learners' comprehension of video segments with second language captions with that of video segments without captions. By means of a 10-item comprehension test, he measured students' comprehension of the video segments. The results of data analysis revealed that students who viewed the video segments with captions gained the highest scores.

In addition, Guillory (1999) investigated the effect of different types of captioning on the comprehension ability of three groups (full captions, keyword captions and no captions) who were shown two video clips over the period of one semester. Immediately after the treatment, all

participants completed a short-answer comprehension test. The results first supported the full captioning as the most effective procedure followed by the keyword captioning, and the least effective one was the no captioned video. However, in the post-hoc analysis, no significant difference between the means of the full-text captions group and the keyword captions group was demonstrated. Huang and Eskey (1999–2000), also, investigated the effects of captions on the listening comprehension. They used thirty intermediate learners trained by *Family Album, USA* series. At the end of the study, the captioned group outperformed the no-captioned group. And finally, Hayati and Mohmedi (2011), in a study on intermediate Iranian language learners arrived at similar results, and supported the effectiveness of movie subtitling in improving comprehension.

In addition to the improvements in listening comprehension, subtitling and captioning have also proved to be useful with regard to vocabulary acquisition. Neuman and Koskinen (1992) investigated the theory of “comprehensible input” by using captions in vocabulary teaching. The result of the study revealed a significant gain for the captioned group compared to the no captioned and the reading while listening group. The outcome of the research was also in favor of effectiveness of different types of modalities (to provide information) on incidental learning. In another study, Markham (1999) used two video footages, and divided 118 advanced learners into with or without captions groups. The results of the study revealed that the captioned group outperformed the non-captioned group in recognizing words from the passage without the support of subtitles. Bird and Williams (2002) also investigated the implicit and explicit learning of spoken words. Based on the results of their study, they arrived at the conclusion that the captions of video materials may have a significant effect on the long-term implicit and explicit learning of spoken word forms. Moreover, Yuksel and Tanriverdi (2009) studied incidental vocabulary learning from watching a video clip with and without captions. 120 intermediate-level language learners were randomly divided into the captions or no-captions group. The results of the data analysis demonstrated a significant gain for both groups, but with the captions group improved a little more than the no-captions group.

The studies discussed so far have demonstrated the positive effects of captioning (Markham, 1989; Neuman & Koskinen, 1992; Guillory, 1999; Hayati & Mohmedi, 2011). However, the common problem with all of these studies lies in the fact that they all neglected the long term effect of subtitling and captioning on improving the actual listening comprehension skills of the listeners. At best, the immediate effect of using subtitles was investigated and no attention was paid to the actual performance of the listeners without the support of subtitles and captions.

In addition to the mentioned problems with previous research on subtitles, the opponents have also leveled some scathing criticisms against the simultaneous use of subtitles on several grounds. For example, there is a general traditional belief that subtitles are disturbing and are a source of laziness. There is also a conviction that subtitles create a degree of dependence on the subtitles (Danan, 2004). The major challenge of using subtitles and captions may be the fact that students become accustomed to the written support and no actual gain is made in listening comprehension ability which is the primary focus. In this regard Robin (2007) disputes the efficiency of captions in the long run and doubts the superficial improvements in the listening ability. Subtitles are also accused of encouraging learners to rely on the written text, and to foster a form of cheating (Danan, 2004). Danan holds the idea that language learners often have feelings of guilt or annoyance when first exposed to subtitles, while teachers themselves tend to be openly hostile to their use.

Moreover, some empirical studies found that the use of subtitles even hinders the comprehension. Taylor (2005), in his research on some Spanish learners, found the no-captioned group performed significantly better in comparison to the captioned group. Some of the learners

found the captions *distracting* and were perplexed by the simultaneous language presentation. The study also suggested that for less proficient learners, captions may have an adverse effect. Also, Caimi (2006) found that with captioned texts, the students' concentration was primarily on reading rather than on listening.

All in all, from the review of the literature it is clear that no consensus has been reached on whether captions and subtitles should be incorporated into L2 listening classrooms or not. Some studies have demonstrated the positive effects of subtitling on productive skills such as verbatim recall and retention, reuse of vocabulary in the proper context, (Markham, 1989; Neuman & Koskinen, 1992; Guillory, 1999), and others have obtained conflicting results (Taylor, 2005; Caimi, 2006; Robin, 2007). While the discussion on this issue is inconclusive, research in this field is still limited in Iran compared to that conducted in other countries. In fact, the link between the availability of subtitles and listening comprehension seems to be missing in the instructional setting and it needs to be researched by a systematic study. In the same vein, the main goal of the present study is to examine whether captions and subtitles can improve actual listening comprehension. More importantly, it is hoped to find out the extent to which movie subtitles influence the long-term improvement of actual listening comprehension skills of L2 learners, the issue that was not adequately addressed in the previous literature.

Research Questions:

1. What is the immediate effect of movie subtitling on listening comprehension?
2. Can any type of subtitling (either bimodal or standard) improve the listening comprehension ability of L2 learners in general?

2. Method

2.1. Participants

The participants were selected from the learners participating in summer English classes in Sadr language center in Isfahan (Iran). Initially, 90 learners had registered for intermediate classes. However, among the registered learners, 39 of those who had managed to get the intermediate-level band score according to the institute rating were chosen to take part in the study. It is worth mentioning that all participants were male language learners between the age range of 17 to 30 whose mother tongue was Persian. Then, the selected participants were assigned into three groups: A Bimodal-Subtitles Group (BSG); a Standard-Subtitles Group (SSG), and finally a No-Subtitles Group (NSG). While grouping the participants into different subtitling groups Zanon's (2006) distinctions were used. According to Zanon, bimodal subtitling involves English dialogues and English subtitles, standard subtitling involves English dialogues and subtitles in the learners' mother tongue,' and reversed subtitling involves dialogues in the learners' mother tongue and English subtitles.

2.2. Pre-test and Post-test

All participants took two different Listening sections of IELTS as pre- and post-test to test the effects of subtitling on general listening ability. In addition, 15 multiple choice comprehension tests were prepared by the researchers. Each of the MC tests was related to one of the 2-minute

parts of the movie 'Alvin and Chipmunks.' Since there were fifteen parts, 15 MC comprehension tests were designed and administered at the end of each session to test the immediate effects of subtitling. The tests had 10 questions which were about the key points discussed in the dialogues of that section.

2.3. *The Procedure*

This study was carried out during a summer English course in Sadr language center in Isfahan (Iran), which usually lasts for 4 weeks. The English language learners attended English classes 4 days a week. Before starting the term, the institute rated all of the learners, and 36 subjects out of 90 who were at intermediate level of proficiency were selected and randomly assigned into 3 groups: A Bimodal-Subtitles Group (BSG), a Standard-Subtitles Group (SSG), and a No-Subtitles Group (NSG), each including 12 learners since the norm population of each class in the institutes is 10 to 15. Then, in the first session of the semester an IELTS listening section was administered as pre-test. Next, the first 30 minutes of a movie entitled "Alvin and Chipmunks" was segmented into 15 sections (two minutes each). From the second session on, all groups watched a 2-minute part of the movie in each session and after the first display, there was a second screening to work on new vocabularies and idiomatic expressions. However, no intensive analysis was performed on the sections and only a general discussion was conducted to ensure the comprehension of the story line. Meanwhile, a general theme of the story was explained to the learners in the first session to give them a general idea of what the movie was about. Finally, at the end of the class (during the final 20 minutes) a multiple choice (MC) comprehension test (consisting of 10 items) was administered. The MC test aimed to measure the subjects' immediate comprehension of the movie. The same procedure was followed for each group for all 15 consecutive sessions. At the end of the term, in the last session of the term, all participants were post-tested with an IELTS listening test. The IELTS test was administered to measure the effect of subtitles on the general listening ability of the learners.

2.4. *Data Analysis*

The multiple choice comprehension tests' results were analyzed as follows: In the MC comprehension tests one credit was assigned to every single item which means the total score for each test would be 10. Then, the subjects' performance was analyzed. There were 15 scores for each participant, since, there were 15 tests. To extract a total number, all of the scores were added up and then divided by fifteen. The computed mean score was considered as the final score of the individuals on the multiple choice tests. Thereafter, the performance of the three groups was analyzed using a One-Way ANOVA and a post hoc Scheffe test. The second test administered in this study was the IELTS listening test taken from IELTS Cambridge books. For the data analysis the answer key of Cambridge books was used meaning that, similar to an actual IELTS test, the participants' scores were based on an ordinal scale consisting of 9 band scores. The obtained scores were then analyzed using a One-Way ANOVA and a post hoc Scheffe test.

3. Results

3.1. The Immediate Effect

Figure 1 indicates that Standard-Subtitles Group achieved the highest mean on the MC comprehension test, followed closely by the Bimodal-Subtitles Group and finally the No-Subtitles Group ranked last. The mean score of the No-Subtitles Group was noticeably lower than the other groups. Still, to see whether or not the differences are statistically significant, the ANOVA procedure was utilized, giving the following results:

Figure 1

Performance of All Three Groups on MC Comprehension Test in Mean Scores

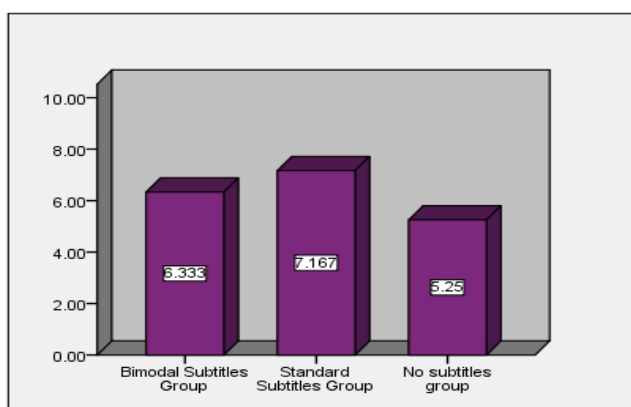


Table 1 clearly indicates that the difference between the means of the three groups is statistically significant. This means that the type of subtitling had a significant effect on the immediate comprehension of the learners. However, in order to locate the statistically significant differences between the means, the post hoc comparisons of pairs of means were also done. Results of the post hoc Scheffe comparisons are summarized in table 2.

Table 1. One-Way ANOVA For MC Comprehension Test.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	22.167	2	11.083	16.196	.000
Within Groups	22.583	33	.684		
Total	44.750	35			

According to table 2, the Standard Subtitles Group performed significantly better than the No-Subtitles Group. And also, Bimodal-Subtitles Group outperformed the No-Subtitles Group learners. However, there was no statistically meaningful difference between Bimodal and

Standard-Subtitles Group. By the Analysis of the data it was revealed that subtitling of the movie exercised a positive impact on the immediate comprehension of the learners.

Table 2. Scheffe Post Hoc for the Multiple-Choice Test.

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.
Bimodal-Subtitles Group	Standard-Subtitles Group	-.83333	.33772	.061
	No-subtitles group	1.08333*	.33772	.011
Standard-Subtitles Group	Bimodal-Subtitles Group	.83333	.33772	.061
	No-subtitles group	1.91667*	.33772	.000
No-subtitles group	Bimodal-Subtitles Group	-1.08333*	.33772	.011
	Standard-Subtitles Group	-1.91667*	.33772	.000

In the following section the general improvement of the subjects regarding listening comprehension ability will be scrutinized.

3.2 General Improvement in listening

As shown in Figure 2, learners who had received the training task without subtitles had a better mean score compared to the learners who had been taught with subtitled movies (5.74 for NSG compared to 5.63 and 5.54 for BSG & SSG respectively). This shows a better mean score for No-Subtitles Group. However, in order to grasp a better understanding of whether or not the differences were statistically significant, a one-way ANOVA and Scheffe post hoc analysis were run and its findings are presented in tables 3 & 4, below.

Figure 2
Performance of All Three Groups on IELTS Test in Mean Scores

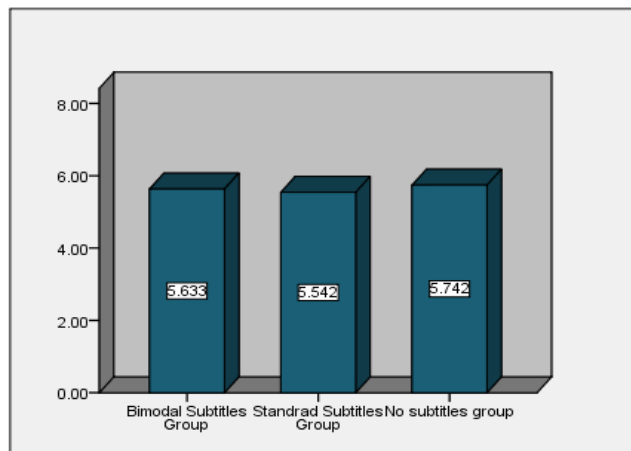


Table 3 illustrates the results of the One-way ANOVA for the IELTS tests on pre- and post-tests. As it can be observed, there is no significant difference among the performance of the three groups on pre-test [$F(2, 33) = .44, p (.957 \text{ hence } >.05)$]. However, there is a significant difference among the performance of the three groups on the post-test [$F(2, 33) = 4.60, p (.017 \text{ hence } <.05)$]. This means that the treatment was effective in favor of one of the groups. In order to determine which group is superior to the others, a post-hoc test was run and the results are as follows.

Table 3. One-Way ANOVA for the IELTS Test.

		Sum of Squares	df	Mean Square	F	Sig.
Pre-test	Between Groups	.002	2	.001	.044	.957
	Within Groups	.626	33	.019		
	Total	.627	35			
Post-test	Between Groups	.243	2	.121	4.601	.017
	Within Groups	.870	33	.026		
	Total	1.113	35			

According to table 4, the comparison of the three groups revealed a significant difference between No-Subtitles Group and Standard-Subtitles Group in favor of NSG. Which means NSG outperformed SSG on the IELTS test; however, the Scheffe Post hoc analysis did not show any other meaningful difference among the groups. There was no significant difference between the BSG and NSG in terms of their gain. In a nutshell, the Standard- and Bimodal-subtitled movies did not result in a better performance compared to No-subtitled movies.

Table 4. Scheffe Post Hoc for the IELTS Test.

Dependent Variable	(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.
Pre-test	Bimodal-Subtitles Group	Reversal-Subtitles Group	-.01667	.05622	.957
		No-subtitles group	-.00833	.05622	.989
	Reversal-Subtitles Group	Bimodal-Subtitles Group	.01667	.05622	.957
		No-subtitles group	.00833	.05622	.989
	No-subtitles group	Bimodal-Subtitles Group	.00833	.05622	.989
		Reversal-Subtitles Group	-.00833	.05622	.989
Post-test	Bimodal-Subtitles Group	Reversal-Subtitles Group	.09167	.06629	.395
		No-subtitles group	-.10917	.06629	.272
	Reversal-Subtitles Group	Bimodal-Subtitles Group	-.09167	.06629	.395
		No-subtitles group	-.20083*	.06629	.017
	No-subtitles group	Bimodal-Subtitles Group	.10917	.06629	.272
		Reversal-Subtitles Group	.20083*	.06629	.017

Dependent Variable	(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.	
Pre-test	Bimodal-Subtitles Group	Reversal-Subtitles Group	-.01667	.05622	.957	
		No-subtitles group	-.00833	.05622	.989	
	Reversal-Subtitles Group	Bimodal-Subtitles Group	.01667	.05622	.957	
		No-subtitles group	.00833	.05622	.989	
	No-subtitles group	Bimodal-Subtitles Group	.00833	.05622	.989	
		Reversal-Subtitles Group	-.00833	.05622	.989	
	Post-test	Bimodal-Subtitles Group	Reversal-Subtitles Group	.09167	.06629	.395
			No-subtitles group	-.10917	.06629	.272
Reversal-Subtitles Group		Bimodal-Subtitles Group	-.09167	.06629	.395	
		No-subtitles group	-.20083*	.06629	.017	
No-subtitles group		Bimodal-Subtitles Group	.10917	.06629	.272	
		Reversal-Subtitles Group	.20083*	.06629	.017	

*. The mean difference is significant at the 0.05 level.

4. Discussion and Conclusion

The present study was conducted to look into the possible effects of movie subtitling on listening comprehension from two angles. First, the immediate effect of subtitles (bimodal or standard) was taken into account. The result of the data analysis for MC tests indicated a positive effect for both types of subtitling. It was revealed that both Bimodal and Standard subtitling exercised a positive effect on the immediate comprehension of the learners. However, when it comes to the improvement of listening comprehension in general, it was found that none of the subtitling procedures resulted in a better performance. The data analysis of the IELTS test indicated that No Subtitles Group had a better mean score compared to the other groups and it outperformed the Standard-subtitles Group, although no meaningful difference was found for the performance between the Standard-Subtitles Group and the Bimodal-Subtitles Group.

When it comes to the immediate effect of subtitling and captioning, the recent literature indicates a considerable amount of work revealing a positive role in one way or the other. In line with Markham (1989), who studied the role of subtitles on comprehension enhancement, the present study produced similar results for the MC test. Moreover, in agreement with Guillory (1999) and Huang and Eskey (1999–2000), the No-subtitles group came last when immediate comprehension is concerned. Besides, in accordance with Pujola (2002) who examined subtitles as a help option in multimedia listening materials and found it helpful to improve L2 listening skills, our study came up with similar results. All of the studies which supported the use of subtitles, however, were suffering from a major shortcoming. That is, they neglected testing their subjects on a test which was not subtitled, such as the IELTS listening test, which is used in the present study as a means to test the general listening improvement of the learners. This may explain the better performance of No-subtitles group on the IELTS test, since they were used to receiving no support from subtitles during the treatment. Therefore, in terms of the long-term effect of subtitles, our findings are in conflict with all the mentioned previous studies.

Few researchers like Markham tried to consider this shortcoming and investigate the enduring effects of subtitling. Markham (1999), in his study tried to prove that captions can help

the students to comprehend more in the long run (Vanderplank, 2010). The results of Markham's study revealed that the captioned group subjects outperformed the non captioned group in recognizing more words; hence, he concluded that captions positively affect listening comprehension. In contrast with Markham's findings, this study produced the opposite results. The possible explanation for this difference could be due to the fact that Markham's benchmark to interpret the data and measure the gains was by considering the recognition of more words on the post test. However, the better performance of the captioned group is more likely to be attributed to memorization (for recognition of more words from the captions as they were reading them) rather than listening comprehension improvement in a similar situation.

The better performance of the No-captioned group on the IELTS test can also be attributed to the problem that the opponents of subtitles mention -- the distracting effect of subtitles. The distraction caused by subtitles may, in a way, explain the poor performance of the subtitles groups on the IELTS test. Since the subtitles may have detrimental effects on the improvement of the actual listening comprehension ability, as Zanon (2006) pointed out, there can be two common handicaps of using subtitles in foreign language education. One is too much concentration on reading so that the dialogues are ignored or forgotten. The second problem deals with the difficulty to break the habit of reading once learners are used to doing so. Therefore, the results of the study are in agreement with Zanon (2006), Danan (2004) and King (2002) with regard to the possible distracting effects of subtitles. In addition, the findings accord with Caimi (2006), as in his study, students mentioned that during the task their concentration was primarily on reading rather than on listening; thus, they achieved no significant improvement in listening comprehension. However, the findings oppose Hayati and Mohmedi (2011) who stated that the subtitles groups had a better performance compared to no subtitles group and that subtitles do not cause distraction. Moreover, Taylor (2005) reports that in his study, captioning caused distraction of the students from the listening task. In accordance with this finding, it can be argued that the immediate improvement of the learners in the present study on MC comprehension tests could be due to the fact that reading the subtitles enhanced the comprehension, not the listening ability. And this may explain the significant differences between the No-Subtitles Group and Standard-subtitles Group in favor of NSG on the IELTS test.

5. Pedagogical Implications

With respect to second language comprehension, this study found that the use of subtitles can lead to immediate improvement in listening comprehension. It may be suggested that by using movie subtitles for the post-listening activities (not for while-listening), input may be processed more deeply and L2 learners can automatize their knowledge of language. Since when the subtitles are used for post-listening analysis, according to Hulstijn (2003) learners will acquire more low-level knowledge (bottom-up) which in turn will lead to the automatization of their language knowledge. According to Hulstijn, acquiring automaticity in bottom-up processing can pave the way for easier higher-level information processing (top-down) as the learners are able to process the listening text without effort at lower levels of word recognition and sentence parsing; therefore, their listening comprehension skills will improve. It would be apparently beneficial to work on the Subtitles (after finishing the listening task) as a medium of gaining language proficiency in its natural setting as well. Working on the movie subtitles as a post-listening activity can help L2 Listeners acquire some knowledge of language (words, structure). Most of the learners only commit the new words and structures to their memory without knowing when and where to use them. By analyzing the movie subtitles, this opportunity is given to the listeners

to reflect on a specific word or structure, and to understand its appropriate usage and natural application.

6. Limitations of the study and suggestions for future research

One of the limitations of the present study was that there was a relatively small sample size which can limit the generalizability of the findings. Therefore, replicating the study with a bigger sample size can be helpful. Additionally, it must be noted that the participants of this study were only intermediate learners which can again jeopardize the generalizability of the results. Further studies are required to investigate the effect of movie subtitles on different proficiency levels.

Mehdi Latifi (b. 1983, Isfahan, Iran), is currently a PhD candidate at the university of Isfahan. He received his M.A. in *Teaching Methodology* from the University of Isfahan. His main research area of interest is *Listening comprehension*.

Ali Mobalegh (b. 1983, Isfahan, Iran), M.A. from Isfahan University. He received his B.A. in English Literature at Isfahan University in 2005. He did an M.A. at the same university. His main areas of interest are *Teaching Methodology and Language Testing*. He has been working as an EFL instructor since 2002.

Elham Mohammadi (b. 1985, Isfahan, Iran), received her M.A. in *Teaching Methodology* from the University of Isfahan in 2010.

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