

The Effect of Bimodal, Standard, and Reversed Subtitling on L₂ Vocabulary Recognition and Recall

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(Received: 9/09/2008, Accepted: 14/12/2008)

Abstract

To investigate the effect of three modes of subtitling on vocabulary recognition, 97 participants in three groups at Imam Khomeini International University in Qazvin were presented with the same film but using different ways of subtitling. To compare the participants' vocabulary recognition, a one-way ANOVA was run. Results indicated that although the difference between the bimodal and standard groups was not statistically significant, both groups were significantly better than the reversed subtitling group. Another one-way ANOVA was used to compare the learners' vocabulary recall. Analyses showed that bimodal subtitling was significantly more effective than standard subtitling, which in turn, was significantly more effective than reversed subtitling. The findings of the present study can have theoretical and practical implications for both vocabulary recognition and recall.

Key Words: Bimodal, standard, reversed subtitling, vocabulary learning, vocabulary recognition and recall.

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Introduction

I must say that I find television very educational. The minute somebody turns it on, I go to the library and read a book. The Comedian Groucho Marx

Apart from comic value, the above statement bears a significant truth because it has been shown that television programs provide a possible source of language learning. According to Beck and McKeown (1991), most research on vocabulary learning has focused on written text, probably because vocabulary research has developed under the umbrella of reading research. However, a number of studies have indicated that television programs and movie videos may also be used as a teaching tool in the field of language learning, especially in the area of vocabulary learning. For instance, Rice and Woodsmall (1988) found that children learn words from their first language when watching animated films with voice-over narration. Such learning can be further improved when the films are subtitled, i.e., when voice is accompanied by orthographic information. Schilperoord, Groot, & Son (2005) note that in countries like the Netherlands, where about 20% of all programs on Dutch public and commercial television are foreign, learners are provided with opportunities to learn foreign languages, especially since the 1980, when the teletext was introduced. Similarly, Koolstra and Beentjes (1999) maintain that in small language communities, a considerable number of television programs are subtitled, creating the possibility of vocabulary acquisition not only in one's first language but also in foreign languages.

Actually, the use of television programs and movie videos for educational purposes is not new. What interests researchers is how much learners can learn from films and television programs, and what factors influence the amount and kind of learning. According to Reese & Davie (1987) to address this concern, researchers have examined features like message structure and format characteristics to identify those which best facilitate learning. Reese & Davie report studies which suggest that visual illustrations are most effective when they are accompanied by the script.

The present study aims at investigating the effect of different types of subtitling

on vocabulary recognition and recall of Iranian University learners of English. It aims at finding answers to the following research questions:

- 1- Is there a significant difference among the effects of bimodal, standard, and reversed subtitling on L₂ vocabulary recognition?
- 2- Is there a significant difference among the effects of bimodal, standard, and reversed subtitling on L₂ vocabulary recall?

Captions and Subtitles

Any discussion or investigation of captioned or subtitled films entails a clear understanding of the concept of subtitling or captioning. In response to the question of what the difference is between captions and subtitles, some people say, "not much" while others might say, "they are totally different" (the Live Journal, 2007). The National Captioning Institute defines captions as 'the process of converting the audio portion of a video production into text which is displayed on a television screen. The captions are typically white upper-case letters against a black background'. Subtitles, on the other hand, are defined as 'the permanently affixed on-screen text that represents the narration, dialogue, music, or sound effects in a program. Subtitles are typically placed at the bottom centre of the television screen' (Mundomedia digital studios, online glossary). Some of the note-worthy differences between captions and subtitles include the following:

- 1- Captions are intended for deaf and hard-of-hearing audiences while the assumed audience for subtitles is hearing people who do not understand the language of dialogue.
- 2- Captions move to denote who is speaking; subtitles are almost set at bottom centre.
- 3- Since subtitles assume you can hear the sound effects, they do not notate them.
- 4- Captions are usually closed, that is, they are selectable and may be turned on or off; however, subtitles are open, i.e., they are permanent and always visible.

5- Captions are usually in the same language as the audio, whereas subtitles are usually a translation. (Screenfront. ca, 2008)

Despite the above-mentioned differences, in UK English, the term subtitle is used to mean both caption and subtitle, and Danan (2004) says that in Europe captions are called 'teletext subtitles'. Similarly, 'Wikipedia, the online free encyclopedia' takes subtitles synonymous with captions and defines both as 'the textual versions of the dialogue in films and television programs, usually displayed at the bottom of the screen'. The present study adopts the same position and the two terms are used interchangeably.

Kinds of subtitling and captioning

Zanon (2006: 47) distinguishes three types of subtitling as follows:

- 1- **Bimodal subtitling:** from English dialogues to English subtitles,
- 2- **Standard subtitling:** from English dialogues to subtitles in the learners' mother tongue', and
- 3- **Reversed subtitling:** from dialogues in the learners' mother tongue to English subtitles

Cordella (2006) notes that subtitles are divided into intralingual and interlingual types. The National Captioning Institute offers a glossary of caption terms which includes off-line captioning, on-line captioning, real-time captioning, automatic live encoding (ALE), pop-on captions, roll-up captions, live-display captions, closed captions, open captions, submaster, etc.

To the above list, Yang-dong & Cai-fen (2007), add L1 captions, or subtitles, L2 captions, full text captions, and keyword captions. The last two types, i.e., full-text and keyword captions are called verbatim and non-verbatim (summarized) subtitles (Schilperoord, et. al, 2005).

The merits and demerits of subtitles

The literature on the use of subtitles in foreign language education is

controversial. Although subtitles have sometimes been considered distracting and slowing down the development of listening skills because they are seen to make learners rely on the text rather than on the stream of speech, many studies have suggested that 'far from being a distraction and a source of laziness, subtitles might have a potential value in helping the learning process by providing learners with the key to massive quantities of authentic and comprehensible language input' (Vanderplank, 1988: 272-273). Borrás and Lafayette (1994) voice a similar concern, but also maintain that the proponents of subtitles contend that subtitles may help develop language proficiency by enabling learners to be conscious of language that they might not otherwise understand.

The opponents of subtitles argue against them on several grounds. Zanon (2006) argues that many viewers consider subtitles a nuisance because they cover visual information and so lessen the credibility of the film. Another prejudice is the traditional belief that subtitles are disturbing and a source of laziness. There is also a conviction that subtitles create a degree of dependence on the subtitles.

Danan (2004) holds 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. This is because subtitles are accused of encouraging learners to rely on the written text, and fostering a form of laziness bordering on cheating (P:1).

Bird & Williams (2002) claim that it remains unclear whether subtitles lead to better or worse listening comprehension. They argue that although some studies suggest that subtitles have some beneficial effects, it may be that text presents the easiest path to comprehension. In other words, the improved comprehension of a video plot and a better retention of phrases and vocabulary could be due only to good reading, not improved listening comprehension.

Reese (1984) believes that subtitles either impede or have no effect on learning from news stories. He believes that the reason may be the limitations of single-channel processing, according to which humans can attend to only one channel at a time. Switching attention from spoken text to written text impairs performance when

processing demands are heavy because some information is lost in the process.

Reese & Davie (1987) conclude that subtitles may impede understanding of the picture stories by distracting attention from the visuals. Similarly, According to Koolstra & Beentjes (1999) an aesthetic disadvantage of subtitling is that the subtitles may distract the viewer from watching the visual images because the title partly covers the film, and because the reading of subtitles make the viewer, especially the viewer with poor reading skill, look away from the film.

Zanon (2006) refers to 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.

Finally, King (2002) lists the following advantages of watching films without subtitles:

- 1- help students develop a high tolerance of ambiguity
- 2- enhance listening strategies such as guessing meaning from context, etc.
- 3- promote active viewing and listening for key words and main ideas
- 4- encourage learners to make use of authentic materials on their own
- 5- giving learners a sense of accomplishment and self-assurance

At the same time, a greater number of studies favour the use of subtitles (of one kind or another). Wilson (2002) suggests that subtitled movies encourage learners to consciously notice new vocabulary and idioms and, as such, may have potential to facilitate vocabulary acquisition without being a distraction for learners. Vanderplank (1988: 272-3) gives two potential benefits of subtitles. One is that subtitles might have potential value in helping the language acquisition process by providing the learners with the key to massive quantities of authentic and comprehensible input. The second merit is that subtitles might help to develop language proficiency through enabling learners to be conscious of new and unfamiliar language that might otherwise be lost in the stream of speech.

Reese & Davie (1987) cite Findahl & Hoijer (1976, 1981), who claim that,

when used intermittently in a story, captions do benefit viewers by directing attention and cuing recall of specific content. To Findahl & Hoiijer, captions are simply another means of emphasizing certain story elements over others.

Yan-dong & Cai-fen (2007) hold that captions can also be used when intelligibility is reduced by poor voice quality, dialecticism, colloquialism, or features of speech. Borrás and Lafayette (1994) state that same language subtitling may help the foreign/second language learner associate the aural and written forms of words more easily and quickly than video without subtitles.

Subtitles can also be beneficial as an information processing aid. Encoding spoken information psychologically requires less effort than the more effortful semantic coding. So, the increased use of verbal representations presented visually could promote the use of semantic codes and facilitate memory (Kellerman, 1985). Danan (2004) concludes that subtitling increases comprehension and leads to additional cognitive benefits, such as greater depth of processing.

Zanon (2006) avows that subtitled films provide a triple connection between "image, sound in one language and text, normally in another, sound and text being typically linked by translation. This type of connection generally encourages strong associations for retention and language use. If we consider the supplementary effects that both visual images and translation on their own typically entail for foreign language learning, their combination here is necessarily very powerful" (p. 43). Similarly, Baltova (1999: 33) holds that subtitled films "provide simultaneous exposure to spoken language, printed text, and visual information all conveying the same message, and so promote content and vocabulary learning even in relatively inexperienced learners".

Theoretical basis of using subtitled films in language education

Apart from the above-mentioned advantages, there is also theoretical support for the inclusion of subtitled films in language learning. Yan-dong & Cai-fen (2007) summarize the relevant theories, some of which are briefly reviewed below:

1. Krashen's second language acquisition theory

According to Krashen, language learners should be provided with optimal input, and it needs four conditions to achieve optimal input: comprehensible, interesting and relevant, not form-focused, and quantitative. All these conditions can be found in subtitled films.

2. Cognitive theory of multimedia learning

The essence of the cognitive theory is to activate prior knowledge and the meaningful connection of new information to the previously-learned information. Subtitled films can help learners activate their existing schemata and reduce the cognitive load of learning.

3. Information processing theory

Based on this theory, elaboration and distributed practice are the two processes that move information into long-term memory. The use of subtitled films during instruction can help learners to encode information.

4. Dual coding theory

According to the bilingual dual coding theory of Paivio, the verbal system and the imagery system are functionally independent and encoded by separate subsystems. In addition, bilingual situations rely on two separate verbal systems related by associative connections. In subtitled films, these three independent systems are interconnected and presented simultaneously. This may lead to better processing and recall because of the additive effects of both image and translation.

Previous studies

The effect of subtitles on language learning

Various studies have investigated the different aspects of the effect of subtitling on second/foreign language learning. Zanon (2006) investigated the contribution of computer-based subtitling to language learning and concluded that subtitling could

motivate learners to appreciate the huge amount of content of the film that does not reach the audience when it is presented to them dubbed. In the same vein, Kusumarasyati (2005) studied the effect of subtitled movie DVDs and found them an effective teaching device to develop the EFL learners' listening skills.

Koolstra & Beentjes (1999) sought to see the effect of the similarity between the foreign and native languages on language acquisition. To this end, the participants were exposed to subtitled television programs with soundtracks similar and dissimilar to their mother tongue. They found that language acquisition was highest for programs with soundtracks in languages similar to the native language.

The study conducted by Reese & Davie (1987) suggests that subtitles improve recall for the abstract/word stories, but do not affect the concrete/picture stories. In fact, they even impede viewer understanding of the picture stories. Reese & Davie conclude that the beneficial captioning effect on recall suggests that making them intermittent, versus continuous, lowers the processing demands on viewers and permits the captions to highlight key details rather than serve as a distraction (p: 9).

In another study, Kirkland, et. al., (1995) evaluated the effect of three captioning levels (standard, edited, or highlighted) on the comprehension of children with learning disabilities and concluded that the use of videos enhanced by captioning positively affects learners' comprehension because comprehension dropped when captioning was withdrawn.

Borras & Lafayette (1994) incorporated subtitles into short video segments that were integrated into an interactive multimedia course. The participants were able to see and control a video segment with or without same language subtitles. Results indicated that having the opportunity to see and control subtitles positively influences both comprehension and production of language.

Markham (1999) compared the listening and reading comprehension of a DVD segment in Spanish by three groups of students learning Spanish (no caption, English captions, Spanish captions). Results indicated that the group with English captions performed better than the Spanish-caption group, which, in turn, performed at a substantially higher level than the no captions group.

Grgurovic & Hegelheimer (2007) used a multimedia listening activity containing a video of an academic lecture to compare the effect of second language subtitles and lecture transcripts on the comprehension of the lecture. It turned out that students preferred subtitles and used them more than the transcript.

Schilperoord, et.al., (2005) compared the role of verbatim and non-verbatim captions in the comprehension of videos by deaf people. They hold that the representatives of deaf people argue strongly in favour of verbatim subtitling, claiming that as a result of the summarizing, vital information is withheld from them. The researchers conclude that such arguments are valid.

To study the effect of subtitles on film understanding, Grignon, Lavour, & Blanc (2005) compared three versions of a film sequence (that is, dubbed, subtitled, and original versions). They found that the dubbed and subtitled versions lead to better performance than the original version.

Effect of subtitles on vocabulary learning

A number of studies have more specifically focused on the effect of subtitles on vocabulary learning. Bird and Williams (2002) conducted two studies examining the effect of single modality (sound or text) and bimodal (sound and text) presentation on word learning. Both experiments led to the conclusion that subtitling can improve the learning of novel words.

Koolstra & beentjes (1999) investigated whether children can learn English vocabulary through watching a television program with an English soundtrack and Dutch subtitles. They concluded that vocabulary was highest in the subtitled condition.

Stewart & Pertusa (2004) explored gains in vocabulary recognition made by intermediate students viewing films in Spanish with English subtitles and others watching the same films with Spanish subtitles. They reported that intralingual subtitles are more effective in enhancing vocabulary recognition.

Neuman & Koskinen (1992) compared vocabulary acquisition of bilingual students in four conditions: a. captioned television, b. television without captions, c.

listening to and reading along with a text, and d. reading a textbook only. Results showed that captioning was more beneficial to vocabulary recognition than the other three conditions.

Markham (1999) also examined the effect of subtitles on aural word recognition skills and found that the availability of subtitles significantly improved the participants' ability to identify the key words when they subsequently heard them again (p: 323-4).

To summarize, most of the studies mentioned so far, seem to confirm that subtitles can improve both language learning and vocabulary learning. However, as to which type of subtitling renders the best result, either there is a paucity of research or the results are mixed. The present study aims to address this issue.

Method

Participants

The participants of the present study were 97 male and female BA level students at Imam Khomeini International University (IKIU) in Qazvin, Iran, ranging in age from 19 to 26. They were majoring in various fields, but they were more or less homogeneous in terms of their language proficiency since they had been assigned to those classes after they had been given a placement test. Of the 97 participants, 64 were female and the rest were male.

Materials and Instrumentation

The teaching materials and data collection instruments utilized in this study included the following:

A 40-item multiple-choice vocabulary subtest of the Michigan Test was administered as a pretest to check the homogeneity of the participants. Another 100-item multiple-choice vocabulary test, which was constructed on the basis of the teaching materials, was given to make sure that the target words to be included in the posttests were novel.

The teaching materials, apart from the usual class activities and materials, included nine episodes of a British TV comedy entitled 'Yes, minister', each of which was about 30 minutes long, and was presented to the participants at the end (the last half hour) of the class time.

An already validated 40-item multiple-choice vocabulary test was given as a posttest to measure the participants' comprehension of words. Another 40-item vocabulary test was administered in 'fill-in-the-blank' format to measure the participants' recall of vocabulary.

The vocabulary subtest of the Michigan Test was also used in a pilot study to establish the validity of the posttests.

Procedure

Having randomly assigned the participants to the three experimental groups, a 40-item multiple-choice vocabulary subtest of the Michigan Test was administered to make sure that the students were homogeneous. Results showed that apart from two extreme cases who answered all questions correctly, the scores of the other participants were close so that the standard deviation of the scores of the total number of participants was nearly the same as the standard deviation of the scores of the participants in each of the three groups. Nevertheless, the data provided by the two extreme cases were excluded from all subsequent statistical analyses. It also needs to be mentioned that three other participants failed to fulfill all the requirements of the experiment by being absent in one or more of the exam sessions. So, there were 92 participants left (30 in one group and 31 in each of the other groups). For ease of computations and in order to have balanced groups, the data provided by one of the participants in the last two groups were randomly removed from analyses. This left the researcher with three groups of thirty members each.

The 100-item vocabulary test was administered to see if the participants already knew the target words. The results of item analysis indicated that 17 items were responded to correctly by more than five people. As a result, care was taken not to include them in the posttests.

During the experimental period, the participants of all three groups were engaged in the same language activities except for the last half-hour of the class time. During the last half-hour, the participants of all groups were presented with one episode of the afore-mentioned film. They watched the same film, but with different modes of subtitling. The first group was presented with both English soundtrack and subtitles. The second group participants watched the same film with English soundtrack and Persian subtitles, and the participants of the third group watched the film with Persian soundtrack and English subtitles.

As homework, the participants were required to watch the films at home. To make sure that they took the films seriously, in the beginning of the following session, they were given a short quiz containing a few general questions checking their comprehension of the film.

While the students were receiving their treatment, a 40-item multiple-choice vocabulary test was developed based on the target words extracted from the films and pretested earlier. It was piloted with a group of 41 students at the same university along with a criterion (the vocabulary subtest of the Michigan Test). The validity of the new test, computed through a correlational procedure, turned out to be .83, and its reliability, estimated through the KR-21 formula, was .87.

To check the participant's recall of vocabulary, another 40-item vocabulary test was developed in fill-in-the-blank format. In an attempt to obtain objective data and facilitate the scoring procedure, the initial letter (in some cases two letters) of the target words were provided. The validity and reliability of the test turned out to be .72 and .81, respectively.

At the end of the experimental period, the multiple-choice test was administered. To avoid boredom and the possible lack of total commitment on the side of the learners, the recall test was administered after an interval of a week. The obtained data were then analysed.

Statistical Analyses and Results

Since 'type of subtitling' was the independent variable which had three levels

(bimodal, standard, and reversed) and the learners' scores on a vocabulary test was the dependant variable, two independent one-way analyses of variance (ANOVA) were run.

To investigate the effect of the type of subtitling on the recognition of words, a One-Way ANOVA was run. The descriptive statistics are summarized in the following table:

Table 1 – Descriptive statistics for the ANOVA on vocabulary recognition

Descriptives					
	N	Mean	Std. Deviation	Minimum	Maximum
Bimodal	30	33.0333	4.16457	24.00	40.00
Standard	30	32.8000	4.02064	23.00	40.00
Reversed	30	27.7333	6.15284	15.00	38.00
Total	90	31.1889	5.41304	15.00	40.00

A glance at table 1 shows that group 1 (bimodal subtitling) has achieved the highest mean, followed closely by the second group (standard subtitling). The mean score of the third group (reversed subtitling) is 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:

Table 2 – ANOVA on vocabulary comprehension

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	538.156	2	269.078	11.311	.000
Within Groups	2069.633	87	23.789		
Total	2607.789	89	$\omega^2 = 0.206$		

Table 2 clearly indicates that the difference between the means of the three groups is statistically significant. This means that the type of subtitling has a significant effect on vocabulary comprehension. In order to locate the statistically significant differences between the means, the post hoc comparisons of pairs of means were done. Results of the post hoc comparisons are summarized in table 3.

Table 3 – Multiple comparisons of means

Scheffe	(I) group	(J) group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
						Bimodal	standard
Standard	reversed	5.06667	1.25934	.001	1.9303	8.2030	
Reversed	bimodal	-5.30000	1.25934	.000	-8.4364	-2.1636	

* The mean difference is significant at the 0.05 level.

Table 3 indicates that although the difference between the bimodal and standard groups is not statistically significant, they are both significantly better than the reversed subtitling group. In other words, both bimodal and standard subtitling result

in better vocabulary comprehension than reversed subtitling.

Another One-Way ANOVA was conducted to see how various types of subtitling affect the recall of vocabulary. Table 4 contains the descriptive statistics:

Table 4 – Descriptive statistics for the ANOVA on vocabulary recall

	N	Mean	Std. Deviation	Minimum	Maximum
Bimodal	30	26.9000	4.41276	19.00	35.00
Standard	30	23.2667	5.15908	13.00	32.00
Reversed	30	20.0333	4.84578	12.00	30.00
Total	90	23.4000	5.53396	12.00	35.00

It can be seen from table 4 that the use of bimodal subtitling is most effective in vocabulary recall followed by standard subtitling. Reversed subtitling is once again least effective. The recall ANOVA was done to see the extent to which the observed differences between the means are statistically significant. The results of the ANOVA procedure are summarized in table 5.

Table 5 – ANOVA on vocabulary recall

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	708.067	2	354.033	15.267	.000
Within Groups	2017.533	87	23.190		
Total	2725.600	89	$\omega^2 = 0.259$		

As it can be seen in the table, the observed F value and the significance level are indicative of significant differences between the means. The post hoc comparisons of means helped locate the differences as shown in the following table:

Table 6 – Multiple comparisons of means for the recall ANOVA

Scheffe	(I) group	(J) group	Mean			95% Confidence Interval	
			Difference	Std. Error	Sig.	Lower Bound	Upper Bound
			(I-J)				
	Bimodal	Standard	3.63333 [*]	1.24338	.017	.5367	6.7300
	Standard	Reversed	3.23333 [*]	1.24338	.039	.1367	6.3300
	Reversed	Bimodal	-6.86667 [*]	1.24338	.000	-9.9633	-3.7700

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

The figures in table 6 indicate that all three comparisons have resulted in statistically significant differences. The first comparison shows that there is a significant difference between bimodal and standard subtitling in favour of the bimodal. The second comparison makes it clear that standard subtitling is significantly more effective than reversed subtitling in vocabulary recall. According to the third comparison, reversed subtitling is significantly worse than bimodal subtitling.

Conclusion and Discussion

Based on the results reported above, it can be concluded that the type of subtitling is an effective factor influencing vocabulary recognition and recall. Based on the obtained results, it can be concluded that the most effective type of subtitling for vocabulary recognition is bimodal subtitling; this kind of subtitling generates better results than standard subtitling and significantly better results than reversed subtitling. At the same time, standard subtitling produces significantly better results than reversed subtitling. The ω^2 value in table 2 is indicative of a relatively large strength of association (0.206), which means that about 20% of the total variance between the groups can be attributed to the type of subtitling. These findings are not altogether unexpected. The superiority of bimodal subtitling to other

kinds is in line with other research findings. After all, the combination of orthographic and phonological information logically yields better results than either of the two modes.

As to vocabulary recall, it can be concluded that bimodal subtitling is significantly better than the standard subtitling, which, in turn, is significantly better than reversed subtitling. The ω^2 value in table 6 shows a larger strength of association figure (0.259), meaning that 'kind of subtitling' accounts for around 26 percent of the total observed variance. The difference between the bimodal and standard subtitling can be explained in light of the above discussion. The difference between reversed subtitling and the other two types may be accounted for by the hypothetical superiority of L1 phonological data to L2 orthographic data for processing. In other words, when the soundtracks are in their native language, the learners may not feel the need to read the subtitles simply because comprehension is achieved without them. When they do not read the subtitles, they do not learn new words, receptively or productively.

The findings of the present study can have implications not only for the teachers and learners, but also for materials preparations experts. The selection and implementation of the appropriate kind of subtitled films and videos can have a considerable effect in both recognition and recall of second language vocabulary. The learning (both receptive and productive) of vocabulary is a thorny task. If they know what kind of subtitling yields the best results in vocabulary recognition and recall, both teachers and syllabus designers will be able to facilitate the students' learning by exposing them to the right kind of subtitled films.

References

- Baltova, I. (1999). Multisensory language teaching in a multidimensional curriculum: The use of authentic bimodal video in core French. *The Canadian Modern Language Review* 56(1), 32-48.
- Beck, I. & M. McKeown. (1991). Conditions of vocabulary acquisition. In: Barr, R. et. al. (Eds.) *Handbook of Reading Research*, 2, 789-814. New York: Longman.

- Birds, S. A., & J. N. Williams. (2002). The effect of bimodal input on implicit and explicit memory: An investigation into the benefits of within language subtitling. *Applied Psycholinguistics*. Retrieved (2008) from: <http://www.cus.cam.ac.uk/~jnw12/subtitling.pdf>
- Borras, I. & R.G. Lafayette. (1994). Effects of multimedia courseware subtitling on the speaking performance of college students of French. *The Modern Language Journal*, 78 (1), 66-75. Retrieved (2008) from: <http://www.jstor.org/pss/329253>
- Cordella, M. (2006). Discourse analysis and the subtitles of documentaries: the case of the children of Russia. *ODISEA*, 7, 77 – 88. Retrieved (2008) from : <http://www.institutional.us.es/revisitas/communication/pdf/numero%204/SECTION%202%20SELECTA/SELECTA%204.pdf>
- Danan, M (2004). Captioning and subtitling: Undervalued language learning strategies. *Meta*, 49 (1), 67-77. Retrieved (2008) from:<http://id.erudit.org/iderudit/009021ar>
- Findahl, O. & B. Hoijer. (1976). Fragments of reality: an experiment with news and TV visuals. Swedish Broadcasting Corporation, Audience and Programme Research Department. In: Reese, D. & Davie, W. R. (1987). Captioning effects on television news learning. Retrieved (2008) from: http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/1b/fc/3f.pdf
- Findahl, O. & B. Hoijer. (1981). Studies of news from the perspective of human comprehension . In: Reese, D. & Davie, W. R. (1987). Captioning effects on television news learning. Retrieved (2008) from: http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/1b/fc/3f.pdf
- Grignon, P. , J. M. Lavaur & N. Blanc. (2005). The effect of subtitles on film understanding. Retrieved (2008) from: <http://www.google.com/search?hl=en+q=the+effect+of+subtitles+on+film+understanding+b+nG=google+search>
- Grgurovic, M. & V. Hegelheimer. (2007). Help options and multimedia listening: students' use of subtitles and the transcript. *Language Learning and Technology*, 11 (1), 45-66
- Kellerman, K. (1985). Memory processes in media effects. *Communication Research*, 12, 83-131.
- King, J. (2002). Using DVD feature films in the EFL classroom. *Computer Assisted Language Learning*, 15 (5), 509-523.
- Kirkland, C. E., et al. (1995). *American Educational Research Association*, San Francisco. Retrieved (2008) from: http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/14/43/a0.pdf

- Koolstra, C. M., & J. W. J. Beentjes. (1999). *Educational Technology Research and Development*, 47 (1), 51-60. Retrieved (2008) from:
<http://www.springerlink.com/content/?k=suntitled+film>
- Kusumarasyati (2005). Subtitled movie DVDs in foreign language learning. KUS06105. Retrieved (2008) from:<http://www.aare.edu.au/06pap/kus06105.pdf>
- Markham, P. (1999). Captioned videotapes and second language listening word recognition. *Foreign Language Annals*, 32 (3), 321 – 328.
- Neuman, S. B., & P. Koskinen. (1992). Captioned television as comprehensible input: Effects of incidental word learning from context for language minority students. *Reading Research Quarterly*, 27, 95 – 106.
- Reese, S. D. (1984). Visual-verbal redundancy effects on television news learning. *Journal of Broadcasting*, 28, 79-87.
- Reese, S.D., & W.R. Davie. (1987). Captioning effects on television news learning. Paper presented to the Radio-Television Journalism of the Association for Education in Journalism and Mass Communication Annual Conderence, San Antonio, Texas. Retrieved (2008) from:
http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/1b/fc/3f.pdf
- Rice, M.L., & L. Woodsmall. (1988). Lessons from television: Children's word learning when viewing. *Child Development*, 59, 420 – 429.
- Schilperoord, J., V. Groot & N.V. Son (2005). Nonverbatim captioning in Dutch television programs: A text linguistic approach. *Journal of Deaf Studies and Deaf Education*, 10, 402-416. Retrieved (2008) from:
<http://jdsde.oxfordjournals.org/cgi/content/full/10/4/402>
- Stewart, M. A., & I. Pertusa. (2004). Gains to language learners from viewing target language closed-captioned films. *Foreign Language Annals*, 37 (3), 438-447
- Vanderplank, R. (1988). The value of teletext subtitling in language learning. *ELT Journal*, 42, 272-281.
- Wilson, C. C. (2002). Practical aspects of using video in the foreign language classroom. *The TESL Journal*, 5 (11). Retrieved (2008) from:
<http://iteslj.org/articles/Canning-video.html>
- Yang-dong, W. & S. Cai-fen. (2007). Tentative model of integrating authentic captioned video to facilitate ESL learning. *PLA University of Foreign Languages*, 4 (9) (Serial no. 45). Retrieved (2008) from:
<http://www.linguist.org.cn/doc/su200709/su20070901.pdf>
- Zanon, N. T. (2006). Using subtitles to enhance foreign language learning. *Porta Linguarum* 6. Retrieved (2008) from:
<http://www.google.com/search?hl=en+q=the+effect+of+subtitles+on+vocabulary+learning&start=40&sa=N>