

## **Processing of Subtitles in Foreign Language Films: An Eye-Tracking Study**

*Marie-Josée Bisson, Walter J.B. van Heuven, Kathy Conklin & Richard J. Tunney*

*University of Nottingham*

*contact: [lpxmb@nottingham.ac.uk](mailto:lpxmb@nottingham.ac.uk)*

Many European countries use subtitles to broadcast foreign language (FL) films and TV programs as a cheaper alternative to dubbing. Furthermore, native language films and TV programs are often offered optionally with different language subtitles. Three different ways of subtitling exist and they vary in terms of whether the soundtrack and/or the subtitles are in the FL. With normal subtitling, native language subtitles are added to a FL soundtrack. With reversed subtitling, the soundtrack is in the native language and the subtitles are in a FL. In the case of intralingual subtitling, both soundtrack and subtitles are in the FL. One of the advantages of watching FL films with subtitles is the incidental learning of vocabulary and this has been investigated in a few studies. For example, Koolstra and Beentjes (1999) used a FL film with normal subtitles and found an increase in vocabulary learning compared to using a FL film with no subtitles. Similar results were found for reversed subtitles (D'Ydewalle and Van de Poel, 1999) and intralingual subtitles (Sydorenko, 2010). This seems to suggest that participants used the information in the subtitles to learn some vocabulary, but it remains unclear to what extent the subtitles are read. Therefore, although prior studies have investigated the use of FL films in the field of FL vocabulary learning, it remains necessary to ascertain first whether subtitles are read in all subtitling conditions as a first step to learning.

In the current study, the reading of the subtitles was investigated using normal (Dutch soundtrack and English subtitles), reversed (English soundtrack and Dutch subtitles) and intralingual (Dutch soundtrack and Dutch subtitles) subtitling conditions. Participants were native English speakers with no knowledge of Dutch and they watched 25 minutes of an animated film whilst their eye-movements were recorded.

The results revealed that when the soundtrack was in Dutch, participants read the subtitles whether they were in their native language or in the FL. Furthermore, participants spent a considerable amount of time reading the Dutch subtitles in the reversed condition even though they had no knowledge of Dutch and they did not need the subtitles to help them understand the film. No differences were found between the normal and intralingual conditions neither in terms of the total fixation duration nor the number of fixations in the subtitle area. An analysis of consecutive fixations in the subtitle area also revealed similar reading pattern between those two conditions.

In conclusion, the eye-tracking data suggests that the dynamic nature of the subtitles (their appearance and disappearance on the screen) coupled with the fact that they contained words, whether in a native or a foreign language, was enough to generate automatic reading behavior. The reading of the subtitles occurred even when the words were in a FL that was unknown to participants. As subtitles were processed to some extent in each subtitling condition, this seems to suggest that language learning using FL films with subtitles is plausible.

## References:

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