The effect of the subtitling task on vocabulary learning

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This paper reports on a quasi-experimental study carried out at the National University of Ireland to investigate the development of subtitling in the foreign-language class. The study uses both qualitative and quantitative methods and focuses on the effects of the subtitling task on incidental vocabulary acquisition. The sixteen students (Level A2 of CEFR) of Italian as a foreign language were assigned either subtitling practice (Experimental Group) or oral comprehension tasks and writing tasks (Control Group). Both groups worked for a total of four hours (1 hour per week). All participants sat a pre-test to ensure the target words were unknown; immediate and delayed post-tests were administered after the experiment. The results are presented and discussed.

Keywords: audiovisual translation, second language acquisition, vocabulary acquisition

Introduction

In recent years, there has been an increasing research interest in the field of Audiovisual Translation (AVT) and its many applications: audio description, dubbing, subtitling, and live-subtitling. From theory to practice, subtitling is definitely one of the most studied AVT modes, not only for the professional practice and training but also for literacy and language learning.

In Europe, the first studies on the use of subtitles with hearing-impaired children date back to the 1980s. However, their potential for foreign language (FL) learning soon became apparent and many scholars have investigated the beneficial effects of intralingual subtitles (i.e. within the same language) and interlingual subtitles (i.e. from one language to another) in second language acquisition with regards to reading comprehension (Gant Guillory 1998; Bravo 2008), listening comprehension (Danan 2004; Caimi 2006), oral production (Borrás & Lafayette 1994), and vocabulary recall (Bird & Williams 2002; Talaván 2007).

Research on the creation of subtitles by FL learners and its use as a teaching tool is still limited but recent studies report encouraging results on the use of intralingual and interlingual subtitling practice and its pedagogical benefits (Williams and Thorne 2000; Sokoli 2006; Bravo 2008; Talaván 2010). A theoretical framework for using film subtitling in the FL class and suggestions for its integration in the syllabus has been proposed, together with a relative practical subtitling activity (Incalcaterra McLoughlin and Lertola 2011). Recently, the European Commission Lifelong Learning Programme has funded projects aimed at promoting the subtitling practice as a pedagogical tool: the LeViS (Socrates) and eCoLoMedia (Leonardo da Vinci). The benefits of the subtitling practice have been also recognized to be effective in translator training (Neves 2004; Incalcaterra McLoughlin 2009).

This paper reports on a quasi-experimental study carried out at the National University of Ireland, Galway during academic year 2010-11. The study uses both qualitative and quantitative methods to investigate the effects of the subtitling tasks on incidental vocabulary acquisition in the foreign language class.

The theoretical framework

The theoretical framework for this study is inspired by Cognitive Theory and its integration with Second Language Acquisition (SLA). Within this framework, two significant assumptions are taken into account: first, learners must be regarded as active participants in the learning process; second, methods of information processing and, in particular, factors such as intelligence, cognitive styles and memory all play a role in successful acquisition of a second language. The humanistic approach to teaching and learning, which focuses on developing students' self-awareness and motivation for learning, is also taken into consideration; students enjoy watching films and this enhances their motivation. Because the language used in films is realistic language in a medium that is not specifically prepared for L2 students, it has much to offer to them. According to Krashen's input hypothesis, people can acquire a second language "only if they obtain comprehensible input" (Krashen 1985: 4). The language is spoken at a normal conversational speed and varieties of language from various ages, genders, and socio-cultural backgrounds are encountered. Indeed, "[a]uthentic videos can be challenging for the average student, but the language can be understood with the help of subtitles, either by having them already visible on the screen or by creating them" (Talaván 2010: 295).

The basic principles for designing learning environments within Mayer's cognitive theory of multimedia learning also underpin this project: consideration was given to the two different channels used for managing

audio and visual information; the limited amount of information that the human mind can process at one time; and the active processing in which humans are engaged in learning acquisition (Fletcher and Tobias 2005). The simultaneous involvement of the acoustic and the visual channel enhances learning and helps memory retention. It has been suggested that human beings are able to remember 10% of what they hear, 20% of what they visually perceive, and 80% of what they visually perceive and interact with. In other words, as far as the subtitling practice is concerned, students are not only watching and listening to the audiovisual material, but also interacting with it as students translate the source text into the target language.

The benefit of translation as a language learning strategy has been the subject of numerous debates over the years (Cook 2001) but now it is considered a valuable resource. Translation phases theorized by Malakoff and Hakuta (1991) are considered regarding the subtitling practice; and the present study is designed accordingly. The two researchers argue that natural translation goes through four phases: understanding the vocabulary in the original text, understanding the message in the original language, reformulating the message in the target language, and evaluating the adequacy of the produced text. Specifically, in subtitling many further implications have to be considered: time and space constraints; subtitling strategies; and finally, in our case, subtitling is both an interlingual and intersemiotic translation because it transfers an Italian oral source text into English written language.

Translation could also help students notice the language. According to the *noticing hypothesis*, proposed by Schmidt (2001), L2 learners should notice the input in order to transform the input into intake for learning; and "[o]ne way to make a foreign language feature noticeable or salient in the input is to enhance it by providing contrastive association with the corresponding L1 item" (Laufer and Girsai 2008: 697). In this study the focus is on incidental vocabulary acquisition, and previous research, independently of the type of tasks, shows that incidental vocabulary acquisition depends highly on the depth of processing involved. The Involvement Load Hypothesis states that unfamiliar words are retained accordingly to the level of processing involved, so "[t]he greater the involvement load, the better the retention" (Hulstijn and Laufer 2001: 545).

Indeed, translation could be considered a task-induced involvement, as it implies the three factors that constitute the involvement construct: *need*, *search* and *evaluation*. *Need* refers to the motivational dimension of the involvement. During the translation/subtitling activity, students are required to fully understand the foreign-language text in order to convey its meaning in their L1, and if "an unknown word is absolutely necessary for comprehension, s/he will experience the need to understand it" (Laufer and Hulstijn 2001: 14). At the same time, *search* and *evaluation* represent the cognitive dimension of involvement: *search* takes place when learners are

looking for the meaning of the unknown L2 word or for the L2 form i.e. L2 translation of an L1 word; *evaluation* happens when learners are required to choose the appropriate meaning of a word in its context, for instance, when an unknown word in the dialogue, looked up on the dictionary, has more than one meaning and the students need to choose the one that best applies to the context.

Background of this study

Two courses on subtitling were conducted by the researcher as part of the Italian language module for second-year students of the Bachelor Degree of Arts and the Bachelor Degree of Commerce at NUI Galway starting in 2008. The pilot course for five second-year students of the Bachelor Degree of Commerce International with Italian was awarded the European Award for Languages-The Language Label 2009. In light of the positive outcomes of the course, and in order to continue the research on the topic, another course on subtitling was offered during academic year 2009/10 with a total of twenty students from the Bachelor Degrees of Commerce and Arts. The second subtitling course differed from the first in that it was specifically designed to investigate whether the creation of subtitles could facilitate language acquisition, and in particular vocabulary retention. While only class observations were used in the pilot course, the second course was planned to collect useful data for the research. Questionnaires and Vocabulary Recall Post-tests were thus administered. A mixed-method research approach was applied as both qualitative and quantitative data were collected. Unfortunately, it was not possible to have an experimental and a control group, so the second course could be considered as having a non-experimental design.

The current study investigates the effects of the subtitling practice on incidental vocabulary acquisition in the Italian foreign language class. This study applies a mixed-method research and it can be defined as quasi-experimental, due to the presence of both experimental and control groups. Thanks to the results and observation of the previous courses, the following research question and hypotheses were formulated.

Research question

Will exposure to new words through authentic video material and its translation for subtitling affect incidental foreign language vocabulary retention? This question gives rise to two hypotheses:

H1: Both conditions will result in retention of new L2 vocabulary compared to the pre-task performance.

H2: The *subtitling condition* will lead to a more significant L2 incidental vocabulary acquisition compared to the *non-subtitling condition.*

Experiment design

In order to answer the research question and test the two hypotheses, the following experiment design was applied.

Participants and instruction

The subjects (n=16) were enrolled in the second-year Bachelor Degree of Arts at NUI Galway. Students signed up for the two groups according to their class schedule; this resulted in six students in the Experimental group (Eg) and ten in the Control Group (Cg). At the beginning of the year in September 2010, students sat a Level Test from Università per Stranieri di Siena, Italy, which showed that they were at CEFR Level A2. An initial questionnaire was also given to find out the students' background as well as television-viewing habits, in terms of subtitled or dubbed material and their previous learning experiences; the questionnaire contained six closed-ended questions, and two open-ended questions. The questionnaire shows that 87% of the participants studied a third language; 87% of the students watched FL movies, 56% of those frequently watched subtitled movies and 28% frequently watched both dubbed and subtitled movies. Moreover, 56% of the participants had previous translation experience and 88% of them believed that translation helps language learning. Finally, 56% had experienced audiovisual material in the FL class and all of them (100%) believed that audiovisual material helps language learning.

The Eg performed a subtitling task from Italian (L2) into English (L1) of a short video clip from a contemporary Italian movie, while the Cg did task-based activities (oral comprehension and L2 writing) on the same video clip using NUI Galway Blackboard Virtual Learning Environment (VLE). The experiment was conducted over four weeks, 1 hour per week (see Table 1 for the experimental design). The pre-viewing activity was common for both groups; during the first hour, in order to have a brief conversation, the video clip was presented to the students using images and the movie title. This pre-activity discussion proved to be well-accepted by students as a creative exercise in which they could practice the L2. Then students perceived situations as a whole or totality. The video clip was watched three times: after the first showing of the video clip with no audio, students were asked to create hypotheses about what was happening in the video, and this

effectively led to a better understanding of the scene. They paid attention to extra-linguistic elements, thus activating their Expectancy Grammar, which allowed them to predict what could happen next in terms of language used and plot development; that was followed by the second watching of the video clip with audio, and group discussion was encouraged in order to test the previous hypotheses.

In the second hour, the Eg watched the movie scene again with the dialogue list (transcription), and concentrated on understanding the message in the original language. Then, in the third and fourth hour, the Eg students translated the dialogue transcript from Italian into English. Finally, the translated text was imported in a subtitling software along with the video clip, and students synchronized their individual subtitles to match with the video.

During their second hour, the Cg watched the scene of the movie again without the transcription, then performed task-based activities on Blackboard VLE aimed at oral comprehension. In the last two hours, students carried out task-based activities focusing on oral comprehension and writing. All the task-based activities required students to watch the video clip.

Table 1: Experiment design

	Experimental group	Control Group
1st hour	Pre-viewing activity; Watch the video the first time with no audio, hypothesis; Watch the video the second time with audio, confirmation of hypothesis.	
2nd hour	Watch the video a third time with dialogue transcript; Comprehension.	Watch the video again; Task based activities (Oral comprehension).
3rd hour	Translation/Subtitling.	Task based activities (Oral comprehension & Writing).
4th hour	Subtitling	Task based activities (Writing)

Testing Procedure

All participants sat a pre-test two weeks before the experiment, in order to ensure the target words (TWs) were unknown; of course, students did not know they were going to be tested again on the target items. Immediate and delayed post-tests were administered after the treatment; the immediate post-test was given to both groups at the end of the activity i.e. in the fourth hour, and the delayed post-test was given two weeks after the immediate post-test. Pre-test and post-test were modeled on the Vocabulary Scale Knowledge Test (Wesche and Paribakht, 1996); the pre-test contained 15 TWs and 15

distracters; the immediate and delayed post-tests were identical and only the 15 TWs were included.

The Vocabulary Scale Knowledge Test (VKS) combines a self-report interview and written performance of lexical items that assess learners' vocabulary development over short periods. Each word has a five-scale rating that ranges from total unfamiliarity to the ability to use the given word correctly both grammatically and semantically in a sentence. VKS is reported as a type of depth measure as it shows a progressive degree of word knowledge; moreover, it requires both receptive and productive knowledge. For the adapted VKS see Figure 1.

Figure 1: VKS self-report categories, adapted from Wesche and Paribakht (1996)

Analysis and findings

The group statistics are presented in Table 2, with the mean scores of the 15 values or TWs according to the group (Eg and Cg) and time point (pre-test, post-immediate and post-delayed). The medians reveal that there is an improvement over time for both groups, which is higher for the Eg than for the Cg. However, looking at the standard deviation (the average distance of the scores from the mean) it could be noticed that the scores are higher for the Eg (SD=1.11) at pre-test time point, showing that the sample was heterogeneous and contained extreme scores compared to the Cg (SD=0.39), where the scores are lower and thus represent a more homogeneous sample. But at post-immediate and post-delayed point, the scores were more similar, proving that the effects of the activity were more homogeneous in both

groups. Therefore, the results of the analysis confirm the first hypothesis: both conditions i.e. subtitling and non-subtitling will result in retention of new L2 vocabulary compared to the pre-task performance.

Table 2: Statistical parameters for mean scores at each time point per group

Group / Test	N	Mean (Std)	Median	Range (Min, Max)
Experimental				
Pre-test	6	2.8 (1.11)	2.43	(2.07, 5.0)
Post-immediate	6	3.73 (0.73)	3.87	(2.86, 4.87)
Post-delayed	6	4.0 (0.73)	4.20	(3.07, 4.87)
Control group				
Pre-test	10	2.06 (0.39)	2.07	(1.53, 2.6)
Post-immediate	10	2.88 (0.79)	3.27	(1.87, 3.92)
Post-delayed	10	2.91 (0.66)	2.83	(1.93, 3.8)

In Table 3 the previous values for the two groups are compared. The only statistically significant difference between the groups is at the post-delayed time point, where the p-value of 0.0340 is lower than 0.05, that is, the standard significance level that is being used (alpha=0.05). The non-parametric Wilcoxon Rank-Sum Test was used due to the small sample size (n=16), and also because the sample was not always normally distributed. However, a student t-test confirms similar results. Hence, the second hypothesis has been confirmed: the *subtitling condition* leads to a more significant L2 incidental vocabulary acquisition compared to the *non-subtitling condition.*

Table 3: Wilcoxon Rank-Sum Test for Experimental Group vs. Control Group

Experimental Group vs. Control Group	p-value (Wilcoxon Rank-Sum Test)
Pretest	0.1127
Post-immediate	0.1090
Post-delayed	0.0340

Conclusions

In sum, the results of this small study indicate that both conditions (i.e. subtitling and non-subtitling) result in a clear improvement in learners' incidental vocabulary acquisition from pre-test to immediate and delayed post-tests, which confirms the first hypothesis. Regarding the second hypothesis, statistically significant results emerge only at the post-delayed point. Due to the limited number of participants in this study it is not possible to draw definitive conclusions. Nevertheless, this research supports

the positive results obtained in recent studies on the use of the subtitling practice as an effective pedagogical tool in the FL class, and it greatly encourages further research on the topic.

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