

The Effects of Video Captioning on L2 Learners' Listening Comprehension

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Abstract

English is considered a major tool for communication. TV/video plays an important role in the transmission of information and is a powerful medium in English teaching. Moreover, implementing with captioned videos with verbal information and full visual context has become more accessible in the language classroom. In this regard, this study investigated the impacts of video captioning on L2 learners' listening comprehension in Taiwan. The experiment proceeded for five weeks, which involved watching two fifteen-minute episodes from an English-as-a-Second-Language (ESL) instructional videotape, *Connect with English*, in a listening class once a week. General English Proficiency Test (GEPT), the pretest and posttest, was administered to assess the students' listening comprehension. Descriptive statistics and Analysis of Covariance (ANCOVA) were utilized in the data analysis. The findings revealed that the subjects viewing captioned videos outperformed the control group, which did not view captioned videos with captioning. These suggest that the use of captioned videos had improved the learners' listening comprehension.

Keywords: English captions, language learning, listening comprehension

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I. INTRODUCTION

Over the years, there has been a growing emphasis on teaching English as a tool for communication, and technology has specifically played a crucial role in facilitating authentic communication. In a sense, the efficacy of multimedia that has drawn great attention is presumed, under the assumption of adding an additional channel of media to transmit a message, to dramatically enhance communication and comprehension (Dwyer, 1978). Multimedia technology (such as TV, computers, networks, e-mail, VCRS, CD-ROMs, and interactive multimedia) aids in language teaching to integrate authentic, real-life situations into the language classroom. In this particular setting, learners gradually develop their language acquisition by being exposed to a genuine target language environment. In one of the most prominent theories of second language acquisition, Krashen (1985) proposes that learners can learn a large amount of language unconsciously through ample input. He suggests the use of a target language in real communicative environments facilitate the learners' language acquisition. In other words, students are exposed to abundant comprehensible input in the classroom and their language acquisition takes place when comprehensible input is sufficiently delivered. Multimedia technology with verbal information and full visual context, such as captions has beneficial effects on language learning due to rich and authentic comprehensible input. In this respect, language teachers strive to employ a wide variety of teaching techniques to create authentic situations and to promote learners' language acquisition.

Captioned videos demonstrating pictures and words in auditory and visual form are more likely to activate both coding systems upon processing than words or pictures alone. Hartman (1961) asserted

broadly that when the same unit of information is presented at the same time in two or more sources, viewers will then more likely remember the message. In this sense, the results of previous research seem to sustain the view that the use of captions triggers multi-sensory processing, that is, interaction with audio, video, and print components all at the same time. Many teachers believe that captions shed some new light on a better way of using various multimedia in an ESL classroom. Captions make education more accessible, and educators have been trying continuously to facilitate language teaching and language learning (Chung, 1999; Goldman, 1996; Katchen, 1997; Koskinen, Wilson, Gambrell, & Neuman, 1993; Lin, 2001; Parks, 1994; Vanderplank, 1993).

Even though much research has hypothesized the benefits of the use of captions for hearing-impaired, disabled students and language learners, similar studies regarding the use of English captions in English teaching are still limited in Taiwan. The current study is of utmost importance and will shed much needed light on the use of captioned video in the classroom.

Thus, there is a need to further explore the potential of captioned television or captioned videos to discern their contribution to the language acquisition of English-as-a-Foreign-Language (EFL) students. To make the distinction from previous studies, this research presents the absence and presence of captions in 10 English ESL instructional video episodes in the control group and the experimental group, respectively, for a period of five weeks to help determine the conditions for the improvement of Taiwanese college students' English listening comprehension.

1. 2 The Aim of this Study

The purpose of this study is to investigate the



effects of the use of video captioning on college EFL students' listening comprehension in Taiwan. The null hypothesis put forward is that there is no significant difference in scores in the listening comprehension subtest of GEPT between the subjects watching videos with captioning and those watching videos without captioning.

II. LITERATURE REVIEW

2.1 The between-channel redundancy theory

The idea under discussion here is that the enhancement of comprehension due to multiple-channel presentation involving at least two channels under consideration (e.g., audio and visual) might be attributed to the between-channel redundancy (BCR) theory. In a discussion of the assumption of this theory, Hartman (1961) broadly defined redundant information as the same unit of information presented at the same time in two or more sources, such as captions and dialogue. Furthermore, Hartman points out that the information in each channel should be closely related when the effectiveness of multiple-channel learning is the center of attention. He defined redundancy broadly as having four levels: redundant, related, unrelated, and contradictory. If the messages are contradictory or unrelated, they compete with one another for attention. Thus, interference is produced. If the messages are redundant and related, they complement one another to improve learning (Hanson, 1992). Hartman (1961) then concluded that "redundant information simultaneously presented by the audio and print channels is more effective in producing learning than is the same information in either channel alone" (p. 42).

Similarly, in investigating conditions for enhancing learning, Hsia (1971) claimed that

redundant information presented across channels increases the dimensionality of information and results in effective learning. Further related research was that done by Pettersson (1989), in which he pointed out that learning efficiency is much enhanced when words and visuals interact and supply redundant information.

Between-channel redundancy, which expects superior performance from audio-print materials, reduces error and information loss, as well as increases recall when one channel provides cues for another (Hsia & Jester, 1968). Thus, since the viewer receives two instances of the same material, greater learning and comprehension is perceived.

In general, redundant information is commonly presented between audio and video channels on television. Several studies on learning from newscasts revealed findings that between-channel redundancy aids learning (Drew & Grimes, 1987; Findahl, 1971; Reese, 1983). Hanson (1989), carrying out studies on instructional television programs, concluded that, "probably the most basic and important of those generalizations is that redundant audio and video usually enhance learning" (p. 15).

To sum up, language learner benefits simply from seeing a situation while hearing the language at the same time. It is more difficult for students to comprehend a radio broadcast as opposed to a television broadcast which is accompanied by visual images. Visual images such as captions, pictures offer an additional input source and provide a parallel input aids the information process.

2.2. The Single Channel Learning Theory

The single channel theory is based on the premise that the human processing system has limited capacity in the central nervous system (Travers, 1964). Originally, Broadbent (1958) developed the first complete theory of attention, which is grounded



in the idea that humans are only capable of processing information through one channel at a time. The human processing system cannot deal with two information channels simultaneously. Broadbent hypothesized that there is only one channel connecting the senses to the central nervous system. Thus, when bimodal presentations of information are employed in the teaching-learning process, deterioration in learning occurs. Broadbent explained that this phenomenon occurs as a direct result of a filtering process taking place in the central nervous system. In other words, if information arrives at the same time in separate channels, an overload occurs that results in a filtering process allowing only information from one channel to be received (Broadbent, 1958).

To elaborate on and develop Broadbent's model, Travers (1964) investigated the human information processing capacity. He questioned whether there is little advantage gained by utilizing bimodal presentations at the same time. According to his findings, there were no gains achieved when the recalling of common words presented simultaneously by vision and audio was compared with the words presented by either vision or audio alone. In fact, Travers claimed that multiple-channel communication resulted in *jamming* of the system and a decrease in communication (Severin, 1967). The evidence from the work of Travers (1964) supports Broadbent's research.

Moreover, there is a body of research that seems to support the single channel theory. Fleming (1970) concluded that many teaching-learning processes, attempting to utilize multiple channels, overload the presentation with stimuli. Learners are so confused by the stimuli arriving from different channels that there is a reduction in productivity. Overloading the senses through multiple channels of information could bring about inefficient learning and

comprehension. In general, one may conclude that information presented through more than one channel will impede learning.

In short, Broadbent's (1958) single-channel theory opposes the multiple-channel theory and proposes arguments against the use of captions (Van Mondfrans & Travers, 1964). According to Broadbent, presentation of the same information (e.g., dialogue and captions) arrived at simultaneously through both channels shows no difference in performance (recognition or recall) when compared to information presented by either dialogue or captions alone.

In other words, the notion that information in one channel would interfere with that in another supports the single channel theory, stating that the multiple-channel theory should not have a positive impact on learning comprehension.

2.3 Comprehensible Input Hypothesis

Stephen Krashen's Monitor Model is one of the most influential and well-known theories regarding second-language acquisition. It dates to the late 1970s and is a general term for an approach to second language learning. According to Krashen (1985), learning a second language (L2) is very much like learning a first language (L1). If people are exposed to the target language by hearing or reading, their ability to speak and write will come more or less at their own pace. In the field of L2 research, much attention has been given to the central role of the acquisition of cognitive academic skills. Language acquisition, a subconscious process, results in linguistic knowledge that is subconsciously stored in the brain (Krashen, 1994).

The Input Hypothesis is Krashen's attempt to explain how a learner acquires a second language. According to this hypothesis, the L2 learner improves and progresses through the developmental stage of natural orders when he/she receives second language



input that is one level beyond his/her current stage of linguistic competence. For example, if a learner is at a stage I , then acquisition takes place when he/she is exposed to comprehensible input that is at level $I+1$.

Krashen (2005) claimed that learners are capable of acquiring $I + 1$ because of the help of previously acquired linguistic competence, as well as extra-linguistic knowledge, which includes knowledge of the word and of the situation. In other words, the role of context is crucial in terms of comprehension.

Given comprehensible input, language must contain vocabulary, meaning, pronunciation, and structures that are already known to the student, coupled with language that is new to the student. Eventually, the learners of a second language understand messages by receiving and processing comprehensible input and so that language acquisition takes place (Krashen, 1999). The ability to produce language will emerge naturally and be acquired directly. In this regard, instructors can provide students with authentic, meaningful, and comprehensible language that is not easily available to them so that their acquisitions take place automatically.

To illustrate the concept that instruction should stress genuine, authentic communication and natural interaction, an integral part of the Input Hypothesis is encouragement and provocation. Apparently, the videotape presentation seems to be relevant to this second language acquisition model, targeting authentic and realistic environments as the key element of successful instruction. The belief that captioned TV programs or captioned videos are an effective educational tool for L2 learners agrees with the second-language acquisition hypotheses of Steven Krashen. The teaching implications are to supply the class time with abundant comprehensive input in order to activate the learners' acquisition

unconsciously.

2.4 Listening Comprehension Research on Captioning

Tim Rees (1993) carried out a study at the International Language Institute of Massachusetts. He used CCTV news program and situation comedies for Chinese and Japanese students of ESL.

Rees transcribes the captions on a word processor and uses the printed-out script of programs students have viewed in class for classroom and homework reading. He also designs cloze and other vocabulary activities from TV programs the students view together in class. The result of this study indicated that Chinese and Japanese students of ESL, viewing CCTV news programs and sitcoms, increase vocabulary, improve their listening comprehension, and acculturate U.S. culture.

Shen (1993) used a computer-based interactive videodisc system to demonstrate the effects of L2 captioning used as knowledge of results feedback in listening comprehension. In his pre-post-experimental-control study, the subjects were 72 college freshmen in English classes in Taiwan. Researchers reported captions as an aid that helped the students generate answers. In other words, Shen pointed out that the group exposed to subtitles performed better in the posttest than the group that was not.

Katchen (1997) assigned her students to transcribe the episodes from X-File, and claimed that with the help of Chinese subtitles, the advanced students could benefit from the provision of Chinese subtitles. Apparently, the students were challenged in their transcription ability.

Furthermore, Chung (1999), using a sample of 170 17-19-year-old students of English, investigated whether videos used in different ways led to better listening comprehension. Chung divided the group



into four proficiency levels and four conditions: (1) they were provided with advanced organizer (pre-listening activities), (2) they were provided with captions in L2; (3) they were provided with a combination of both advanced organizers and captions; (4) they were provided with neither. An advanced organizer, a concept developed and systematically studied by David Ausubel in 1960, is information that is presented prior to learning and that can be used by the learner to organize and interpret new incoming information (Mayer, 2003). The results showed that the combined condition scored significantly higher than the other three conditions. Chung concluded that the use of a combination of techniques of advanced organizers and captions can be more effective in enhancing learners' listening comprehension.

III. THE STUDY

Aimed to investigate the causal relationship between the use of L2 captioned videos and learning of EFL by college students in Taiwan, this study employed a quasi-experimental design, specifically, a nonequivalent control group design (see Table 1).

Table 1.

Quasi-Experimental Design

Group	Assignment	n	Treatment	Posttest
1	non-random	40	video/ caption	GEPT
2	non-random	40	video no caption	GEPT

GEPT: General English Proficiency Test-intermediate level

3.1 Research Design

The design of the nonequivalent control group was created in this study because the researcher had access only to existing groups of EFL students. Randomization of subjects and control over scheduling were not possible. Eighty students enrolled in the English listening comprehension class

participated and were assigned to one of two different condition groups. Prior to the date of the actual experiment, the pretest was administered (using the practice test of GEPT- intermediate) to both the experimental and control groups in order to determine the initial difference in prior language proficiency. To prevent this design from the mortality as a potential internal threat, referring to the loss of subjects from a study, the researcher carried out the study for only five weeks, and the group sizes and membership remained constant. Moreover, multiple treatment interference, as an external validity threat, was avoided since the treatment materials, captioned videos, and non-captioned videos were not easily influenced by the differences in the teacher' instruction. In other words, if the study was carried out by different researchers who used the captioned video as the treatment, results will be valid and be able to remain constant. It is because the multiple treatment interference was avoided.

3.2 Methods

The independent variable was the presence of L2 captions. The dependent variables were the students' performances in GEPT. For controlling the initial difference between the two groups, the pretest score in GEPT was also known as a covariant. Considering the experimental treatment in this study, there were two conditions presented in the two groups, referred to as English captioned videos and videos with no English captions. Entering their first year in college, the participants attended the regular English listening comprehension class and watched two fifteen-minute story episodes from a series of ESL instructional videos, *Connect with English*, once a week over a period of five weeks. Being randomly assigned, the control group watched the episode videos without any captions, whereas the experimental group watched the videos with English



captioning. The other instrument, the practice test of GEPT – intermediate level, was applied as a pretest and a posttest. In the present study, GEPT was considered as the instrument to measure the students' overall language proficiency after the fifth week of the experimental study. The data were analyzed by ANCOVA to examine the effects of the use of video captioning on the EFL students' language learning in terms of their listening comprehension.

3.3 Participants

The subjects of this study were 80 freshman students at a four-year national institute of technology in central Taiwan. Their average age is 18-20. Most of them have studied English for about seven years and were admitted into the institute based on their scores in the nationwide entrance examination held by the Ministry of Education in Taiwan. Moreover, students took the English placement test and were placed into different freshman English classes based on their language proficiency. In this respect, the subjects' ability for learning is presumed to be closely equal. Initially, the subjects in the class of intermediate level were invited to participate in the study with an announcement from their instructor at the beginning of the spring semester. The 80 participants were randomly assigned to one of the two different condition groups. Each group consisted of 40 students. Mandarin was the first language of the subjects, who all received instruction in EFL for an average of seven years through traditional EFL classes in junior high and high school. However, as far as their language proficiency is concerned, the students in the two groups were given the practice test of GEPT- intermediate as a pretest prior to the date of the actual experimentation session in order to control for initial differences in their language proficiency.

3.4 Treatment

Connect with English, a series of ESL instructional videos produced by WGBH Boston with major funding from the Anneberg/CPB Project in 1998, was used in this study, along with accompanying print materials published by McGraw-Hill. The entire package of instructional materials consists of 25 videos containing forty-eight fifteen-minute story episodes in which the story attempts to use a soap opera approach to language learning. Each specific theme contains two fifteen-minute episodes, placing emphasis on an authentic target language environment, real social life settings, and U.S. cultural exploration.

The 48-episode program teaches English through use of a narrative fiction storyline and discussion segments featuring actual adult learners. The storyline of *Connect with English* is constructed so that students learn the language they need specific to a variety of situations: work, school, home, hospitals, and urban and rural locations throughout the United States. It is a great way not only to improve English language proficiency, but to increase awareness about American culture, values, and way of life.

As a recommendation, this series of ESL instruction videos is appropriate for students in intensive English language programs, as well as for adult English learners. *Connect with English* is designed for learners whose proficiency levels range from advanced beginner to intermediate.

Furthermore, the series of instructional videos is designed to help students build up their listening and comprehension skills and to gain a clear understanding of the characters and story lines in *Connect with English*. The program, therefore, embodies Krashen's Input Hypothesis. Additional language skills beyond the video cultivate reading,



oral communication, and vocabulary development. The language level in each episode follows a sequence. In the earlier episodes, the grammar and vocabulary were simpler, whereas in the later episodes, the language was more advanced. In this study, Video Volume 1 (containing 15 episodes) was used for the two groups in class. The control group watched the ESL instructional videos without English captions, while the experimental group watched them with English captions.

3.5 Instrumentation

The instrument administered in the study was GEPT. Its aim was to assess the students' overall listening comprehension. GEPT is derived from an English test system developed by the Language Training and Testing Center (LTTC) in 1999 commissioned by the Ministry of Education in Taiwan. It is designed and administered in five levels, namely, elementary, intermediate, high-intermediate, advanced, and superior. The tests aim to evaluate people's ability to use English as a medium of cross-cultural communication, and it is comprised of four subtests including listening, speaking, reading, and writing. The intermediate level, designed for language proficiency at the university level, was administered as the pretest and posttest in this study. The report from LTTC in 1999 indicates that the reliability coefficient for the GEPT reached .92, which was statistically significant. In other word, GEPT is repeatable and yields consistent scores. In addition, the report also evaluated content validity by using Item Response Theory. According to reports from reviewers evaluating the validity of GEPT, the acceptance of the model used for the test and the selection of items are good. Eighty percent of the items fall on the scale between 0.46 and 0.75, indicating that the level of item difficulty is between average and above average.

The GEPT- intermediate test is composed of five parts. In this study, we placed emphasis on the listening section and aimed at testing the students' ability to understand spoken English. The students spent 20 minutes completing the section under the supervision of the instructor. The test items of GEPT are scored as either correct or incorrect, and the raw scores are maximized to 30 on the listening subtest. The practice test of GEPT-intermediate posted on the web site at www.gept.org.tw is employed for educational purposes. The researcher called the organization and consulted with the director to obtain permission before administering the test in the actual experiment.

3.6 Procedures

To begin with, at the beginning of the spring semester, the researcher scheduled the first meeting with a teacher. To reach a better understanding of this study, the researcher and the teacher discussed who the participants will be and what instructions should be given in the class at the first meeting. Meanwhile, the researcher asked the teacher to send the syllabi of both classes in order to ensure consistency of instructions in both groups. A consensus of agreement included that (i) all students in the experimental and control groups will be taught the same material from the same textbook, and (ii) all students in both groups will be taught for the same number of hours by the same English teacher in a regular classroom.

Moreover, the teacher assigned the subjects in the two groups, playing the videos to the participants at the beginning of the subjects' regularly scheduled 60-minute class of English listening comprehension. Prior to the date of the actual experiment, the participants in the two groups expressed their willingness to take part in the study, and the teacher explained the goal and purpose of the study. They were asked to take the practice test of GEPT -



intermediate. Meanwhile, the participants were told that the results of this pretest would be used to design effective classroom instructions. After the teacher designated each of the two groups as the control and the experimental groups, the participants were instructed to watch two video episodes of *Connect with English, Video Volume 1 (containing episodes 1-15)* at the beginning of every class. As mentioned in the treatment section earlier, each episode is a complete fifteen-minute story. One group watched the video with English captioning, whereas the other group watched the video without captioning. Finally, during the fifth week, the practice test of GEPT-intermediate, one identical to the pretest, was administered again to the control group and the experimental group.

During the five-week experiment, communication between the teacher and the researcher was frequent. Subsequently, during the second meeting with the teacher in Taiwan, the researcher collected the students' GEPT scores and then analyzed the data to determine the effects of the use of video captioning on the EFL college students' language learning.

3.7 Data Analysis

After the test data were received, SPSS statistical package was used to analyze them. ANCOVA is utilized to control for extraneous variables and any bias which might be attributed to the randomization process. The pretest score was entered as a covariant to control for the effect of initial group differences in language proficiency. The data of GEPT were analyzed by ANCOVA to examine the effects of the use of video captioning on EFL college students' performance in listening comprehension.

IV. RESULTS

The means, the possible high score of 30, and the standard deviations of the two groups are displayed in Table 2. The data show that the experimental group scored higher than the comparison group (M = 20.18; SD = 4.28 vs. M = 16.35; SD = 4.85, respectively).

Table 2

Mean Listening Scores in GEPT

Group	n	M	SD
Caption	40	20.18	4.28
Non-caption	40	16.35	4.85

Following the descriptive statistics of listening scores, ANCOVA was applied to test the hypothesis as well as determine whether the two conditions differed significantly from each other in the scores on the listening subtest of GEPT. As shown in Table 2, the findings reported that the experimental group's mean was significantly higher than that of the control group (df = 1, F = 14.53, p = .000). The ANCOVA results of this statistical analysis are presented in Table 3, agreeing to reject the null hypothesis.

Table 3

ANCOVA: Scores on the Listening Subtest of GEPT

Source	Sum of Squares	df	Mean Squares	F-Value	P-Value
Pretest	194.64	1	194.64	10.41	.002*
Group	271.67	1	271.67	14.53	.000
Error			1440.23	77	18.70

Significant at p<.05

V. DISCUSSION

The findings on the mean listening scores from GEPT under two conditions were significant as it tested whether the use of captioned videos improves or hinders EFL students' listening learning. Consistent with the findings of Chung (1999), Kathen



(1997), Rees (1993), and Shen (1993), the results of GEPT, evaluating learners' listening comprehension, show that the captioned group appears to depend more on visual-verbal (L2 captions) videos that offer visual cues in understanding listening materials. Accordingly, this positive finding was considered in line with Hartman's explanation (1961) that captions may increase listening comprehension if the presentation of the captioned material is easier to understand. In this study, information coming from the video episodes, which were at the normal speed rate of narration and had no complex linguistic system, did not interfere with the viewers' ability to comprehend successfully. Therefore, the use of video with added captions through the multiple-channel process (caption, audio, video) did not exceed the learners' system capacity.

Moreover, the finding also refers to between-channel redundancy, which expects superior performance from audio-print materials, reduces error and information loss, as well as increases recall when one channel provides cues for another (Hsia & Jester, 1968). Thus, since the viewer receives two instances of the same material, greater learning and comprehension is perceived.

Meanwhile, learners' listening improves because of exposure to comprehensible input under the presentation of the appropriate level $I + 1$. The finding embodies Krashen's Input Hypothesis. Context and extra linguistic information provide students with abundant input and understanding of the content. The use of a target language in real communicative environments and the emphasis on abundant comprehensible input by exposing the students to the target language in the classroom facilitate the learners' language acquisition.

VI. CONCLUSION

The results of this study suggested that the

combination of text, sounds, and images represents a rich and stimulating environment that provides learners with many possibilities to comprehend and access authentic target language. The redundant information simultaneously presented by the audio and print channels accounts for the efficacy in producing learning as compared to the same information in either channel alone. Thus, the use of rich context with visual, graphic, and oral/aural cues through captioned videos or TV programs increased the students' comprehension of the programs. Gradually, captions help students bridge the gap between the development of skills in reading comprehension and aural comprehension. Moreover, captions make comprehension of authentic video material less difficult and encourage conscious language learning. Students' motivation for learning English will increase, and their interest will lower their affective filter, defined as a student's state of receptivity to acquiring a new language.

If this assumption is confirmed, the students might feel confident and open to the language input. Therefore, it is encouraging presenting both verbal and visual learning materials in the language classroom because this would enrich the content environment and make the setting more authentic, lively, and interesting to the students.

Moreover, integration of L2 visual and L2 verbal context is supported by the belief that L2 acquisition is enhanced through the incidental learning of language from contextually rich verbal input while the students focus on the meaning rather than on the form of the input. In this sense, increasing exposure to a broad variety of authentic text in the foreign language classroom, such as ESL L2 captioned videos, seems to enrich pedagogical settings more than exclusive exposure to teachers' lectures and a limited set of linguistic textbooks. In other words, ESL captioned videos provide simplified



input which is geared to a specified level of L2 proficiency and is delivered at a natural rate of narration. According to the findings in relation to the effectiveness of the captioned materials, the current research therefore suggests that the employment of appropriate captioned instructional video programs has a great impact on the production of language learning to EFL students and enhances their willingness to make progress.

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英文字幕教學對大學生英文聽力理解之探討

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摘 要

近年來，英文教學強調英語是人與人之間溝通的主要工具之一。電視和錄影帶是很有影響力的溝通工具，電視和錄影帶不僅傳遞影片中的視覺效果更生動地呈現劇情對話文字、音樂的聽覺效果。在這樣的表現方式裡，字幕扮演著溝通的橋樑。字幕透過視覺的頻道傳達劇情內容和透過聽覺的頻道處理對話文字、音樂。然而，字幕的呈現對外語學習是種幫助抑或阻礙？本研究將針對台灣大學生為研究對象，每週收看有英文字幕的電視錄影帶，並將探討標的語字幕對外語學習者在聽力理解學習成就上的影響，希冀，聲音、影像，及內容同步進行可增加英文聽力能力，提供外語教學或學習之參考。所使用的統計方法將包括敘述性統計 (Descriptive Statistics)、共變數分析 (Analysis of covariance, ANCOVA)。

關鍵字：英文字幕、學習成效、外語教學、聽力理解

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