

# *The Influence of Second Language Subtitled Audio-visual Input on Second Language Grammar Acquisition Performance: An Integrative Review*

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**Abstract:** Previous studies have proven the value of subtitles for vocabulary and comprehension learning in second languages. However, L2 subtitled audio-visual input's influence on grammar development, a second tricky part of L2 acquisition, has received little attention. This article offers an integrative overview of prior research on the use of subtitled audio-visual input to facilitate L2 grammar learning. Evidence shows that L2 grammar acquisition performance is facilitated by audio-visual input with subtitles in the language, but only for some of the grammatical structures. Grammar learning through L2 Subtitled audio-visual input is substantially less significant than vocabulary learning. Textual enhancement (TE), types of subtitles, learners' age, and prior knowledge of the language may also affect grammar acquisition performance. Further research is needed to investigate whether L2 learners' grasp of recently learned or previously learned grammar can be improved through L2 subtitled audio-visual input. Additionally, a research gap exists in implementing L2 subtitled audio-visual input in authentic second language classrooms.

**Keywords:** second language, grammar acquisition, subtitle, audio-visual input

## 1. Introduction

Today's technological advancements have enabled the incorporation of multimedia resources like films, TV shows, and the Internet in L2 courses. These resources are intended for students in traditional classroom settings who may not have access to enough exposure to the target language to reach high levels of proficiency [1]. Although immersion opportunities in the nation where the target language is spoken might compensate for this lack of exposure, not all students have the time or financial means to take part in such opportunities. Therefore, using digital tools in language classrooms to offer students more chances for interaction in the target language could be a positive step forward. Within this domain, the utilization of subtitling and captioning has garnered notable attention within the context of SLA research. The inception of subtitles for television programming during the 1980s initially aimed to enhance access to this medium for individuals with hearing impairment. Subsequently, educational scholars delved into the potential benefits of subtitling for fostering L2 language competencies in both auditory children and adults, thus recognizing the versatility of this resource for diverse target demographics [2]. Two theories explain the ability of L2-subtitled audio-visual input to enhance second language acquisition. The first theory is that

subtitle reading seems to be an automatic process. Adults' processing of subtitles is to some extent automatic according to experimental investigations using eye tracking [3]. Viewers have been observed to engage in the cognitive processing of second language verbal auditory information when exposed to audio-visual content accompanied by interlingual subtitles [4]. Additionally, studies have indicated that viewers effectively process and integrate information from multiple sources within subtitled AV content [5]. Another pertinent idea is the dual coding hypothesis, which contends that the presence of non-verbal visual cues improves the comprehension of verbal information [6].

Numerous studies have explored the effects of incorporating L2 audio-visual input with subtitles on second language comprehension and vocabulary acquisition. As some scholars propose, the utilization of multimodal content, supplemented with captions, may facilitate the linkage between aural and written aspects of words, aiding foreign or second language learners in quicker and more efficient association [7]. The value of subtitling in second language comprehension and vocabulary learning has been established by prior research. However, little has been said about the value of L2 subtitled audio-visual input for a second challenging aspect of L2 acquisition, grammar development. The importance of grammar education for language learning has been confirmed by much literature. Making connections between grammar and writing is emphasized in grammar instruction that is motivated by Systemic Functional Linguistics, and there is now a wealth of empirical data that supports the claim that in-context grammar instruction can significantly improve writing abilities [8] or reflection on language more broadly [9]. Furthermore, it is worth noting that the instruction of grammar has demonstrated its utility in fostering orthographic skills, as demonstrated by Chamalaun in 2019 [10]. Additionally, it has been established as a valuable tool for enhancing reading abilities, as highlighted by Funke et al. in 2013 [11]. As seen by the work of academics like Benjamin and Oliva in 2007, grammar training has historically been seen as a way to support logical thinking in the context of language education [12]. This viewpoint, which is based on the assumption that grammar may help to improve logical reasoning, has been at the center of the history of grammar instruction in Germany and the Netherlands during the last two centuries, as explored by Hulshof in 2014 [13]. It has been proposed that grammar and linguistics can help students enhance their critical or scientific thinking abilities outside of the Dutch and German environment [14], which might be viewed as a continuation of the notion that teaching grammar could improve logical thinking. Thus, the current study reviewed the currently limited literature on subtitled audio-visual input to facilitate second language grammar acquisition, further providing L2 instructors with an adjunct to L2 instruction. For this study, the integrated literature review methodology was used. During the problem identification phase, two primary research questions were to be developed:

- (1) What influence does L2 audio-visual input with subtitles or captions have on L2 grammar acquisition performance?
- (2) Are there other factors that can affect this influence?

## **2. Literature Review**

### **2.1. What Influence Does L2 Audio-visual Input with Subtitles or Captions Have on L2 Grammar Acquisition Performance?**

Saeedi and Biri researched to examine the impact of animated videos on the acquisition of target forms [15]. While the primary focus of this study centered on the acquisition of grammar through video-based instruction, the inclusion of captions served a dual purpose: to enhance the viewing experience and bolster overall comprehensibility. The control group received explicit grammar instruction, whereas the experimental group was exposed to a series of 12 animated videos across six sessions. The findings revealed a notable disparity in post-test scores, with the experimental group outperforming the control group. These results underscore the efficacy of video-based exposure in

augmenting grammar learning, surpassing the outcomes associated with conventional explicit grammar instruction. Encouragingly, a majority of participants in the experimental group exhibited a favorable disposition towards this mode of learning and expressed a willingness to further engage with grammar through video-based resources. Nevertheless, it's crucial to emphasize that the outcomes of this study should not be automatically generalized to the wider context of captioned videos. This limitation arises from the fact that the research methodology involved controlled classroom activities, including pausing and replaying segments of the video, rather than observing natural uninterrupted viewing experiences.

According to Van Lommel et al., findings could be viewed as supporting evidence for grammar learning through subtitled movie watching [16]. When the rules were explained in advance, the grammar performance of the primary school students improved slightly more after seeing the movie than before. However, the impact was barely discernible. Pattemore and Muñoz reported a thorough classroom experiment in which students saw an original version TV show in both captioned and uncaptioned settings [17]. The findings showed that for grammar learning, the Captions group outperformed the Non-Captions group. Cintrón et al. conducted research aimed to find whether captioned videos affect the acquisition of four kinds of Spanish grammar. The result revealed that for *gustar*-type verbs and the subjunctive in noun clauses (but not for *ser/estar* or the preterite/imperfect), captioned videos outperformed non-captioned videos [2]. This was true for both the two-week posttest and the immediate posttest. Overall, the outcomes of the production assignment demonstrate that captioning can more readily increase learner familiarity with specific structures (but not all of them). Similar findings were made by Cintrón and Garcia in 2021, who discovered that some target-grammar structures were affected by captioning but not all of them. The results show that some grammatical structures are easier to learn for captioning [18].

## 2.2. Textual Enhancement (TE)

Despite the abundance of grammatical forms present in the input, L2 (second language) learners often tend to prioritize their focus on understanding open-class items, such as nouns, verbs, adjectives, and adverbs, at the expense of some aspects of morphological structure [19]. This is because morphological forms are less conspicuous in the physical input compared to vocabulary items. In the field of Second Language Acquisition literature, there is a substantial body of research on the use of salience-enhancing techniques in input. One common approach is textual augmentation, which involves visual modifications such as color-coding, underlining, and boldfacing to emphasize specific forms within written input. These visual cues are designed to facilitate learners' future comprehension of these highlighted linguistic features.

Numerous studies have explored the impact of grammar instruction with the addition of subtitles and textual enhancement on learners' grasp of target grammatical structures. Lee and Révész discovered that textual enhancement effectively directed students' attention towards anaphora antecedents, resulting in increased receptive knowledge of pronominal anaphoric reference [20]. In the study by Cintrón et al. in 2019, the effects of utilizing full captions along with textual enhancement to enhance learners' understanding of four specific Spanish grammar points were investigated [2]. The findings indicated an advantage over non-captioned videos for two of the grammatical aspects. This led the researchers to emphasize the importance of considering the structure-specific characteristics of different grammatical elements, which could influence their prominence in the input. Additionally, Cintrón and García observed that textual enhancement captions had an immediate positive impact on the production abilities related to certain grammatical structures, such as *gustar*-type verbs and preterite/imperfect forms, but not others [18]. These findings shed light on the variable effects of different grammatical structures when exposed to enhanced instructional methods.

### 2.3. Type of Subtitle

The types of subtitles also play a role in influencing the acquisition of L2 grammar skills. In a 1997 study, D'Ydewalle and Pavakanun compared two subtitling scenarios: the standard subtitling scenario, where the mother tongue is in the soundtrack and the foreign language is in the subtitles; and the reversed subtitling scenario, where the foreign language is in the subtitles and the mother tongue is in the soundtrack [21]. The reversed subtitling condition performed better than the conventional subtitling condition in the evaluation of elementary grammatical structures. Another noteworthy finding was the strong performance in the assessment of simple grammatical structures when the foreign language was present in the soundtrack, even in cases where the mother tongue was not available (as seen in conditions with the foreign language in both subtitles and soundtrack and the condition with the foreign language in the soundtrack but without subtitles). D'Ydewalle and Pavakanun support the idea that it is impractical to simultaneously gaze at the pictures and the subtitle text. Nevertheless, it is possible for a subject to follow a movie visually while processing the soundtrack. A significant amount of resource time is lost when the visual focus is switched between the image and the foreign text, which causes some interference. In a study in 1999, D'Ydewalle and Van de Poel found that the auditory morphology test shows superior performance for children hearing L2 in the soundtrack [22].

### 2.4. Other Factors That Affect the Influence of L2 Subtitled/Captioned Audio-visual Input on L2 Grammar Acquisition Performance

#### 2.4.1. Age

There is a hypothesis suggesting that children, in particular, demonstrate greater proficiency in language acquisition when exposed to informal language contexts, while the impact of such informal exposure is generally more limited in adults [23]. However, D'Ydewalle and Van de Poel conducted a study that challenged this hypothesis. Their research revealed that there was no significant difference in grammar acquisition between students and adults when both groups watched subtitled television programs [22]. In another study, Van Lommel et al. investigated the acquisition of foreign grammar while individuals watched subtitled television programs [16]. They explored whether the presentation of linguistic rules before exposure influenced the learning process, with this aspect serving as a dependent variable in their research. They found that advanced rule presentation was clearly more beneficial among older children than among younger children. At the same time, younger children perform better in the incidental condition. Muñoz conducted an eye-tracking study in 2017 and found that compared to teens and adults, primary school students skipped subtitles far less frequently [24]. Children spent more time and had more fixations on subtitles than teenagers and adults combined. It might mean that younger students rely more on subtitles than older students, who may not need to read as much because they can comprehend aural material more efficiently. However, up to now, there is no evidence that concentration on subtitles is related to foreign language grammar acquisition.

#### 2.4.2. Prior Language Knowledge

Dulay and Burt proposed a theory suggesting that the order in which individuals learn a language is influenced by the relative complexity of its various structures, with simpler elements being acquired before more complex ones [25]. Building on this framework, it's plausible to suggest that students exposed to certain levels of L2 (second language) immersion within an educational setting may be more inclined to grasp grammatical structures of greater intricacy, as opposed to those without such linguistic immersion. However, D'Ydewalle and Van de Poel conducted research that did not provide

substantial support for this perspective [22]. Their study involved participants watching subtitled television programs, and the results indicated that the performance of participants in the experimental groups did not significantly outperform that of the control group in terms of syntax and morphology tests for students in grades 5 and 6. In a separate study, Pattemore and Muñoz conducted research to investigate the influence of captions, proficiency levels, and language aptitude on the acquisition of L2 constructions through audio-visual input [17]. Their findings revealed a notable impact of proficiency on construction learning, with intermediate proficiency learners demonstrating greater progress compared to those at the elementary proficiency level. However, there were no apparent distinctions in progress between the elementary and advanced proficiency groups, nor between the intermediate and advanced proficiency groups. These findings provide valuable insights into the intricate relationship between proficiency and language acquisition.

### 3. Conclusion

L2 subtitled audio-visual input is facilitative for L2 grammar acquisition performance, in both intentional and incidental learning processes. However, this effect is only marginally significant for some of the grammatical structures measured in the experiment, not others. Compared to vocabulary acquisition, grammar acquisition through L2 Subtitled audio-visual input is much less significant. This could be due to grammar being far more complex than vocabulary and challenging to acquire in a short period, and L2 grammar is less visible in physical input than vocabulary for learners. In terms of the characteristics of the subtitles themselves, both textual enhancements of subtitles and types of subtitles affect the final grammar acquisition performance. Textual enhancement and the type of subtitle also have effects on the acquisition performance.

The age and prior language knowledge of the language learner also may affect grammar acquisition performance. D'Ydewalle and Van de Poel found that students did not acquire more grammar through subtitled TV than adults. However, kids learn more when a foreign language is used in the soundtrack rather than the subtitles [22]. According to Van Lommel et al., the research findings indicated that the efficacy of advanced rule presentation was notably pronounced among older children compared to their younger counterparts [16]. Conversely, the younger children exhibited superior performance within the incidental learning condition. Pattemore and Muñoz (2020) assert that there is a significant influence of proficiency on construction learning and that the intermediate proficiency group outperformed the elementary proficiency group in terms of gains [17].

One of the most critical tasks for foreign language teachers is to provide their students with the skills, strategies, and viewing habits that will optimize their accidental language learning via media exposure outside of the classroom [26]. For L2 instructors, L2 subtitled audio-visual input can be utilized to assist students in acquiring L2 grammar. But there are several issues at the same time that should be paid attention to. (1) To focus students' attention on the grammar parts in the subtitles, textual enhancement is necessary. As morphological structures are relatively less visible in the subtitle, some manipulations are needed to promote students' attention toward the target grammar structure. It is necessary to encourage students to write down chunks of L2 they are unfamiliar with, which may contain grammar they are unfamiliar with. Moreover, preliminary indications should be proffered, delineating specific elements warranting students' attentive observation during their viewing engagement. Nonetheless, these indications are intentionally nuanced to preclude undue conspicuousness. (2) According to previous research, not all grammatical structures are suitable for this approach, and instructors should not choose grammar that is too complex. Distinctive attributes inherent in various grammatical structures may engender substantial discrepancies in their saliency within the context of subtitles. Ideally, students will be able to summarize the general target grammar rules independently after watching the material, based on the subtitles they have seen. The choice of

materials should also follow a certain standard, meaning that the discourse context of the materials should help students' processing of grammar.

There are also some limitations within the current study. The acquisition of entirely unfamiliar grammatical structures via L2 subtitled audio-visual input within a compressed timeframe might pose challenges for second language learners. Nevertheless, a more efficacious approach could involve the utilization of L2 subtitled audio-visual input to augment comprehension of previously assimilated grammar. Prevailing investigations predominantly center on evaluating the immediate advancements in foreign language grammatical proficiency among participants facilitated by L2 subtitled audio-visual input. Further scholarly exploration could be undertaken to ascertain the potential of L2 subtitled audio-visual input in enhancing L2 learners' mastery of recently acquired or previously learned grammar, spanning both immediate and more protracted temporal domains

The relationship between second language vocabulary acquisition and grammar acquisition should also be considered. There is a concept known as the lexical approach theory, proposed by Lewis in 1993. This theory suggests that language learners don't typically start by acquiring grammar rules and then vocabulary to apply those rules. Instead, they initially learn sets of language chunks without detailed analysis. Over time, they gradually break down and examine these chunks, leading to the extraction of grammatical patterns and regularities [27]. From this perspective, vocabulary acquisition can also be seen as the foundation for the later acquisition of grammatical rules. If L2 learners watch multiple L2 Subtitled audio-visual programmes over a longer period, is it possible that L2 learners extracting patterns from vocabulary acquisition can also complement grammar acquisition? A call for further pertinent investigations is warranted, as even in instances where overt grammar acquisition through L2 subtitled audio-visual input might not be readily discernible, the progression of vocabulary acquisition itself stands as a conceivable indicator of the underlying grammar acquisition process, serving as a foundational precursor thereto.

The practical implementation of L2 subtitled audio-visual input within authentic second language classrooms constitutes a pivotal area of scholarly inquiry. The procurement of L2 subtitled audio-visual materials suitably tailored for the acquisition of specific target grammatical knowledge presents a nontrivial challenge. In some studies, researchers have created subtitled videos for teaching the target grammatical structure to make it easier for participants to focus on it. But this is unrealistic for the vast majority of L2 classrooms. In addition to this, advanced rule presentation seems to be necessary to allow students to focus on the target grammatical structure rather than being completely immersed in the content of the material. Yet what level of advanced rule presentation is ideal - one that captures students' attention without inducing them to deliberately look for the target grammar to memorize in the subtitles. This issue continues to underscore a substantial void within the extant scholarly discourse.

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