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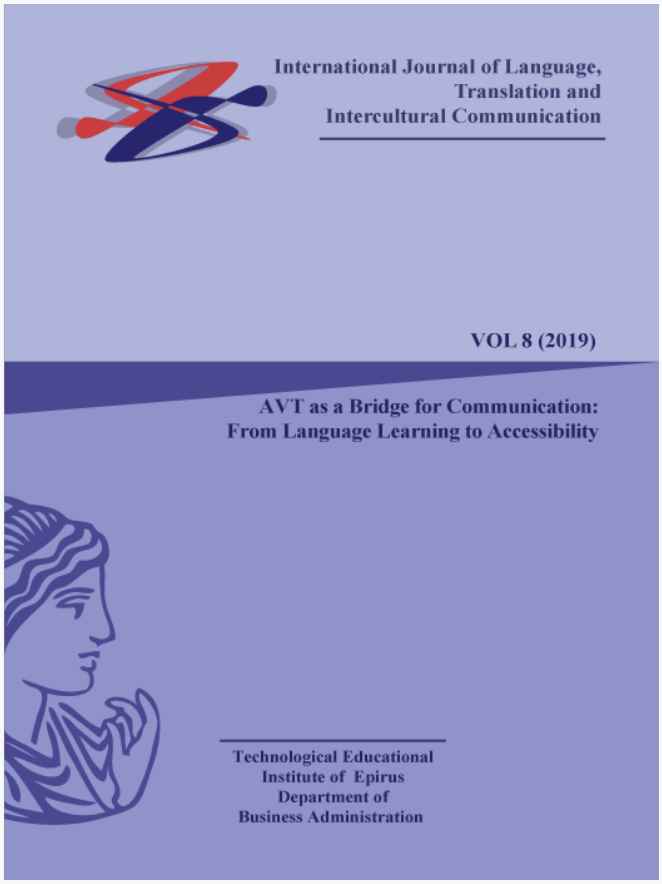


# Teaching Vocabulary to Deaf Students Through Enriched Subtitling: A Case Study in Qatar

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# Teaching Vocabulary to Deaf Students Through Enriched Subtitling: A Case Study in Qatar

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**Abstract**
*This interdisciplinary study examines the impact of using enriched subtitling (ES), within a total communication (TC) holistic approach to language learning, on the acquisition of vocabulary by deaf and hard of hearing (DHH) students.*
*The performance of the students in an experimental class, using an ES-based lesson, was compared to two classes using traditional educational methods, focusing on text reading and sign language. The classes were followed by three tests, one immediately after the class, and two other delayed tests, a day and a week later. Qualitative and quantitative data was collected and triangulated through class observations, student feedback, test results, focus group discussions, and interviews. Test results showed that the experimental class achieved the best results, supporting the research hypothesis that, when integrated in carefully planned lessons, ES can be a valuable tool to enhance vocabulary acquisition by deaf students.*

***Key words**: Deaf education, Holistic (total communication) learning approach, Enriched Subtitling, Vocabulary Acquisition.*

## Introduction

The entitlement to language is acknowledged as a basic human right (UN 1948). By learning their national language in its oral and written forms, people are included in the dominant society they belong to. As happens with hearing children, young people with hearing impairment have the right (and need) to learn their national language so that they can communicate effectively, thus enjoying the benefits of full inclusion in everyday life. While the natural language of Deaf people will be a sign language, their ability to read and write with confidence will be of vital importance when exercising full citizenship.

Studies have shown that acquiring language can be a complex process for both hearing and deaf children. On this, Nagy and Scott (2000: 270) state that "[a]ny attempt to understand the processes by which children's vocabularies grow must be based on a recognition of the complexity of word knowledge"; and Hermans et al. (2008: 158) mention that "[f]or deaf children reading vocabulary acquisition is an uphill challenge. Most of them do not have a well-established spoken word lexicon they can rely upon."
Echoing this universal right, the first article of the 2004 Qatari Constitution states that the "Arabic Language is the official language in Qatar" (Hukoomi, 2018). To make this effective, in January 2019, HH the Amir Sheikh Tamim bin Hamad Al Thani issued a law on the "protection of the Arabic language" (The Amiri Diwan of the State of Qatar, 2019), making the use of the Arabic language mandatory in governmental and educational settings.

Despite such directives, the educational system of deaf and hard of hearing (DHH) students in the country appears to be having issues with developing deaf children's linguistic abilities in reading and writing the national language.

With this in mind, the study to be addressed below explores the use of enriched subtitling (ES) (Neves, 2018), as a pedagogical tool within a holistic language learning approach, to teach new vocabulary to deaf students in Qatar. In this particular case, "enrichment" came in the guise of creative subtitling and very specific pedagogical strategies to be used with a small group of DHH girls aged 10 to 14, learning the basics of the Arabic language.

The use of subtitling in deaf education is not new. In fact, relevant studies in the US, in the 1970 and 1980s, report the use of Captioning (CC) in deaf students' language learning (cf. Romero-Fresco, 2018: 201-203). What has not often been addressed is the way in which a lesson plan may be hinged on specifically designed subtitles for language learning.

In this case study, a full lesson plan, following the revised version of the Bloom's Taxonomy learning model, was designed around a commercial film that was subtitled for the purpose of vocabulary learning. The first three levels of the cognition process of the revised Bloom's Taxonomy - remember, understand and apply - were reinforced through learning techniques that included defining, recognizing, identifying, repeating, reproducing, relating, and producing. Testing, which used an experimental group of 3 students and two control groups with equal numbers and similar profiles, was conducted in the naturalistic environment of regular Arabic language classes in the Audio Education Complex, the local school for deaf education. This was done to compare the given ES-based holistic approach to the traditional teaching methods, namely using Arabic Sign Language and reading text. Qualitative and quantitative measures were applied to analyze the outcomes, as described below.

**Deafness and language acquisition**

It is argued that language is one of the skills that people do not acquire through study, but rather through experience and practice. Seminal works by Streng et al. (1978: 70) note, "for normal [*sic*] children, language is learned, not 'taught.'" They explain that language is acquired through constant exposure. They also point out that language development is linked to "normal [*sic*] cognitive development" which means that language development increases gradually and naturally with age and experience. Also Quigley and Paul (1984: 6) focus on natural acquisition as they note that most hearing children acquire language "through apparently effortless interaction with a language model (usually the mother) in infancy and early childhood." In contrast, Drasgow (1993: 248) sees "language acquisition as a learning process rather than a developmental process. Language acquisition […] is based on learning how to process certain kinds of information effectively."

When hearing is lost prior to developing the spoken language, the ability to develop language at an early stage through listening and copying can be a great challenge, which will affect the advanced stage of producing and applying. On a different note, Rodda and Grove (1987) argue that there is no difference in the strategies used by hearing or deaf children in developing language. They mention that "if deaf children are exposed to appropriate and adequate language models from a very early age, they have equal opportunity to develop skills in this language" (Rodda and Grove, 1987: 235). They note

further that deaf children, who do not have other disabilities and have an adequate language learning experience, can be at the same level as their hearing peers.
Recent publications have built on previous works to argue that literacy is achieved only when there is basic language development. Mayer and Trezek (2015: 27) note, "deaf children must follow the same developmental process from language to literacy as their hearing counterparts if they are ultimately to become proficient readers and writers." To this effect, Mayer and Trezek (2015: 28-43) propose a model of early literacy development, which consists of four phases: "acquiring the language, thinking with language, linking language to print and developing literacy for learning and educational purposes beyond the early years." They explain that the four phases are applicable to the spoken language, while the last two phases are not applicable to the SL. These researchers also observe that the process of learning how to read, for both deaf and hearing children, is the same. However, different strategies and approaches are required to develop comparable early literacy.

As noted, deaf children can develop spoken language, including reading, but only if appropriate linguistic, pedagogical and communicative input is introduced at a very early age, even before the conventional schooling age for hearing children. Acquiring a language requires the acquisition of its three fundamental parts: syntax, phonetics and lexicon, the last of which will be the focus of the case study described below.

**Deaf education paradigms and practices**

It is common knowledge that any educational process is challenging. This becomes particularly true when the students' profile is different from that for which mainstream education is devised, as is the case for deaf children. The added difficulty will not be due to deaf children's lack of cognitive abilities, but can most likely be attributed to the lack of adequate educational strategies that promote effective communication from a very early age. Summarizing relevant literature about Deaf education, Neves (2005: 88–92) lists traditional approaches to deaf education, including the Auditory-verbal approach, the Bilingual-Bicultural (Bi-Bi) approach, the Cued Speech approach, the Oral Approach and the Total Communication approach. These approaches have been favoured at different times and in different contexts in direct relationship with the given approaches to deafness itself. While for some time the educational models for deaf education followed those used for hearing children (auditory-verbal and oral approaches), with the recognition of sign languages as the natural language of Deaf people, the Bi-Bi approach has gained momentum and has become the preferred approach in deaf education.

One of the approaches that has led to the most heated debates, and simultaneously some of the most interesting outcomes, has been that of Total Communication (TC), seen by various scholars (Denton, 1972; Mindel, 1974; Scouten, 1984; Schlesinger, 1986) as a means to integrate a range of communication modalities (eg. speech, finger spelling, sign language, print, …) to enhance learning. Whilst some have acclaimed it, TC has been criticized for what may be its greatest strength: the flexibility to adjust to individual needs and its ability to "optimize language development in whatever way is most effective for the individual child" (Hands and voices, 2014). In fact, since its inception in the 1970s and later its wide acceptance in the 1990's, TC has lost its holistic take on communication to be seen as the use of auditory/spoken and visual/manual modes in deaf education.

Recent works (cf. Scheetz, 2012; Mayer, 2016) reiterate the value of TC, particularly given the advances in cochlear implantation and the added complexity of

educating children who live between hearing and deaf worlds; however, the take is still reductionist, limiting multimodality to those modes involved in speaking and in signing. A similar perspective is echoed by Swanwick (2016: 420), who believes that the focus on learning and teaching DHH students has shifted away from communication philosophies and ideologies (such as TC), to accept that present day educational environments will be using bimodal bilingual approaches that blend oral and gestural languages. The deliberate or natural switch between languages, also known as translanguaging (Lewis, Jones and Baker, 2012: 3), is seen as a valuable practice in Bi-Bi educational environments in which "individuals creatively draw on their language repertoires to scaffold learning" (Swanwick, 2016: 421). This scholar goes further to differentiate between this natural behavior and the recognized Total Communication (TC) approach, which is seen an educational philosophy which, and based on Moores (2010), "encompasses all aspects of visual and oral communication, including speech, fingerspelling, text, gesture, and sign language" (Swanwick, 2016: 421).

What the above-mentioned scholars seem not to address is the fact that the principles of TC might be seen beyond speech and signing and that, in Deaf education, multimodality can be expanded beyond language proper to encompass learning tools, such as film with image, sound, aural and visual signs, that may be verbal or not in nature. Furthermore, they tend to exclude a very important element in the acquisition of the national (oral) language and in communication proficiency: "the ability to read and write at a mature level" (Quigley and Kretschmer, 1982: xi). This also means that reading and writing is not duly factored as an important aspect of language acquisition and of communication as a whole.

**Literacy and vocabulary**

It appears appropriate, at this stage, to reiterate that the most natural forms of communication for deaf people will be visual and gestural in nature. This may suggest that the most adequate form by which DHH people can acquire and use their national language will be through its visual representations, i.e. in written form. The ability to read and write that language will have a major impact on social inclusion and allow for professional activities and engagement in active citizenship.

It is argued that vocabulary acquisition and reading ability form a mutually inter-dependent relationship. Without building a rich vocabulary, the reading skill fails to develop appropriately, and consequently, without a good reading ability, one cannot build a rich vocabulary. Krashen (1989) discusses how reading can be a successful tool in learning vocabulary as he notes, "more comprehensible input in the form of reading is associated with greater competence in vocabulary and spelling" (Krashen, 1989: 441).
The delay of the reading ability of deaf children was extensively discussed by scholars in the second half of the twentieth century. Quigley and Paul (1984, 114) observe, "deaf children are likely to arrive at the beginning reading with a very limited knowledge base, inadequately developed cognitive and linguistic skills, and little or no comprehension of English figurative language." More recent studies continue to document the close relationship between vocabulary, reading skills and overall communication skills (Paul, 1996; Kyle and Harris, 2006) and American studies register the fact that the average deaf high school student's reading outcomes remain at 4$^{th}$ or 5$^{th}$ grade level (Allen, 1986; Traxler, 2000; Easterbrooks, 2010). Among the reasons for this situation, Luckner et al. (2005/2006) list "delayed vocabularies".

Scholarly work on vocabulary acquisition by deaf children over the last decade echo the previous academic argument that the vocabulary acquired by deaf children is very limited compared to their hearing peers; and thus, the reading ability is more limited. Based on Ehri's model (2005) Mayer and Trezek (2015: 62-63) note that acquiring vocabulary happens in stages. They refer that the first stage is "the partial alphabetic" in which children begin to learn "names and graphemes associated with them and have developed the conceptual understanding of phonemic awareness"; then the stage of "the full alphabetic" in which "they use knowledge to decode and encode words both in isolation and within connected text." Finally, the last stage of development, "consolidated alphabet", which happens in the elementary grades and includes "decoding and encoding multisyllabic words, understanding syllable types and applying morphemic analysis." Easterbrooks and Trussel (2016) further elaborate on these principles to articulate teaching/learning approaches and models that will take deaf students from the acquisition of words to complex structures. These authors (Easterbrooks and Trussel, 2016: 379) reiterate Kyle and Harris (2010) when stating that deaf and hard of hearing children's vocabulary knowledge is a "key predictor of reading achievement", going on to list effective vocabulary learning strategies: "computer-based vocabulary programs, dialogic reading, chaining and repeated viewing accompanied by instruction" (Easterbrooks and Trussel, 2016: 379). The case study discussed below took the last two of these strategies within its pedagogical approach. More specifically, it used chaining, by which the students were provided various representations of the word; and repeated viewing of the vocabulary in audiovisual (clips and full-length film) and multiple reading materials (cards, worksheets and lists, among others). Such strategies were used in the belief that taking on a Total Communication approach to vocabulary acquisition would engage and strengthen students' short-term and long-term working memories, while investing in their greatest strength: sight. Streng et al. (1978: 34) note, "[w]hat we have in short-term memory can be put into long-term memory by rehearsing it and relating it to already acquired knowledge." Although it is true that deaf children encounter difficulty in retaining information and that their short-term working memory is reportedly lower than that of their hearing peers, it is noticed that the method of communication (and especially when used in educational contexts) will have a relevant impact on their working memory, that which will allow them to acquire knowledge. Given all the above, if literacy is to be stimulated in schools, we share Easterbrooks' view that, "educators need multiple options, serving multiple needs from multiple perspectives, all of which should undergo rigorous validation" (Easterbrooks, 2010: 112).

**Subtitling for vocabulary acquisition**

The use of audiovisual materials and subtitling as a language learning tool, both for hearing and for deaf students learning their first, second or a foreign language, has been repeatedly studied from within the field of audiovisual translation (see Bravo, 2010; Talaván, 2010; Zárate 2010, 2014). Various decades before the rise in interest on the part of translation studies scholars, works in the field of psychology, deaf studies and education too had looked into the value of subtitling for pedagogical purposes. Neuman and Koskinen (1992) examined the correlation between captioned television as a "comprehensible input" (Krashen, 1982) and language acquisition. The study, which was conducted with hearing children studying science, showed that television captions seemed to offer a rich language experience, which assisted students to learn words (concepts) through context. A similar conclusion was arrived at by Koolstra and Beentjes (1999),

who examined the impact of using subtitling on acquiring vocabulary by hearing Dutch students in grades 4 and 6, studying English as a foreign language.

Similarly, the findings of a study conducted by Kothari (1998) showed that using the same language subtitling (SLS) for film songs, enhances enjoyment and encourages reading. In another study conducted by Kothari et al. (2004), the findings reported a gradual positive impact on the comprehension of the participants who watched the SLS for 6 months. Zárate and Eliahoo (2014) examined the impact of enhanced subtitles in comparison to the broadcast subtitles on word recognition and content comprehension acquired by deaf children. The enhancement strategies used included repetition, highlighting, careful spotting, text reduction and longer reading time. The scholars found that there was no evidence that children who were exposed to the enhanced subtitling comprehended the content more than children who were exposed to the broadcast one, but a slight improvement was shown regarding the word recognition. The outcomes of these and other studies were taken into account when designing and developing the case study described below.

## Enriched subtitling approaches

When the target audience is DHH viewers, SDH/CC has become one of the most common forms of access to mainstream audiovisual materials and media, such as television. SDH parameters have been established through practice and empirical research conducted over the last decades such as De Linde and Kay (1999), Neves (2005, 2007, 2008 and 2018), Remael (2007), Zárate (2014) and Romero-Fresco (2015, 2018).

However, beyond conventional mass media contexts, SDH has gained new contours, and new applications and approaches, among which Creative Subtitling and Enriched Subtitling have emerged. Studies on creative subtitling such as Nornes (1999), Foerster (2010), McClarty (2012), Romero-Fresco (2013), Sala Robert (2016), Fox (2017), and Katan (2018) stress the necessity of using creative approaches rather than conventional subtitling to serve various individual and creative needs. By taking a comprehensive approach to SDH as a form of transadaptation (Neves, 2005), the notion of Enriched Subtitling (Neves, 2018) allows for the "enrichment" of subtitles in creative ways to serve particular purposes, namely in the context here addressed: for language learning.

## Case Study

### Context and Research Design

Al Attiyah and Mian (2009) summarize the beginning of deaf education in Qatar by saying that "special education" was introduced in Qatar in 1974, when there was only one class for children with hearing impairment in an elementary school for boys. In 1980, the number increased to three classes in the same school and consequently the teachers increased to eight. In 1980, the Ministry of Education established Al-Aml institute to teach boys with hearing impairment. In the next few years, female classes were also added.

Presently, the Audio Education Complex is the only school for teaching and educating boys and girls with hearing impairment in Qatar. Deaf children attending this school follow the same curriculum as that of mainstream education for hearing students and teachers depend mainly on Arabic Sign language (ArSL) and lip-reading, in addition to printed texts when teaching. While it may be true that some teachers use audiovisual

materials in their classes, this is most often done as entertainment rather than as an integrated tool to achieve pre-established learning goals.

Recently, from within the field of audiovisual translation, academic work has begun to focus on ways to support deaf education in Qatar. For instance, Aldaher (2017) carried out an audiovisual campaign using accessible filmmaking techniques to raise awareness among parents and teachers about the importance of using SL, SDH and clear writing for easy reading to improve communication with deaf children.

It is in this context that a case study was undertaken, as an MA research project, to examine the use of tailored subtitles as a pedagogical tool for the teaching of new Arabic vocabulary to a small group of deaf students at the Audio Education Complex.

For the purpose, a short film was subtitled using the Enriched Subtitling approach, applying SDH parameters and Creative Subtitling to highlight the vocabulary to be learnt. This pedagogical tool was then used as a pivot for a carefully laid out lesson plan to be used in an experimental class, following the principles of the new revised version of Bloom's taxonomy learning model (2001). The revised model, according to Bümen (2007: 440) follows "the recent developments in the educational and psychological literature" and uses the verb form instead of the noun to focus on students' actual performance. The current case study chose to focus on the first three elements *remember*, *understand* and *apply*, given the students' linguistic competencies. The participants – 9 girls, aged between 10 and 14, attending preparatory school classes; two teachers; and a sign language interpreter – were chosen after a focus group discussion with teachers working in the female section of the Audio Education Complex, for a better understanding of the challenges of teaching deaf children and the methods and strategies used when teaching vocabulary. The discussion also proved useful in the establishment of the research design. It led to the decision to compare the outcomes of an experimental class using ES with those of classes following the methods commonly used in the institution.

This led to the development of three lesson plans: one by the researcher, using ES in a holistic TC approach; the other two, by two Arabic language teachers using, respectively, printed text and sign language approaches. The three lesson plans focused on the teaching of the same vocabulary to three comparable groups of students.

The experiment, which aimed to validate the materials and lesson plan devised by the researcher for the purpose of learning specific vocabulary, took place in two parts: First, a class was carried out by the researcher using the ES method, and two other classes using the conventional teaching methods regularly applied in the Audio Education Complex: sign language, and Reading Text.

The three classes were held consecutively. First, the experimental class, which is referred to as the ES class took place; then the second class, referred to as the RT class, which was taught by an Arabic language teacher using reading text as a focal element; and finally, the third class, the SL class, which was taught by an Arabic language teacher using sign language (in which students also watched the original version of the film but without subtitling or SL). The researcher delivered the experimental class with the aid of a sign language interpreter, and was an observer in the classes of the traditional methods. However, the teachers did not attend the experimental class. The order in which the classes took place had no impact on the study and only served organizational needs.

The second part of the experiment entailed testing for memory, understanding and application. The three groups of students were tested on three occasions over one week by an immediate test, after the class, and another two delayed tests: one on the following day and another one week later. The tests were conducted using two communication modes: signing, given that it is the students' mother tongue and writing.

**Procedures**

**Development of Audiovisual Materials/Film**

The film chosen for the experiment was Kashta (2016), an award-winning short film, directed by a young Qatari filmmaker, A.J. Al Thani, for its depiction of a culturally relevant environment. For the purpose of the lesson plan, two short clips, which had the words to be learnt, were extracted from the full versions (SDH and CS+SL). The vocabulary items to be studied were selected from the film itself in consultation with the teachers. In view of the students' profiles, the decision was made to only address 5 new words (common nouns): "Hedgehog, Ambulance, Gun, Compass and Desert". Two subtitle versions were produced: the first, using creative subtitling techniques, in which the new vocabulary was introduced twice during the film in creative ways, as shown in image 1. This was done on the understanding that, as seen by Sala Robert (2016: 269), "[w]ith creative subtitling, the experience of reading subtitles becomes more relaxed, both for deaf and hard of hearing children. It implies a lower cognitive effort, compared to conventional subtitling, and it results in a more relaxed and fluent viewing experience." This version had SL as part of the film throughout.

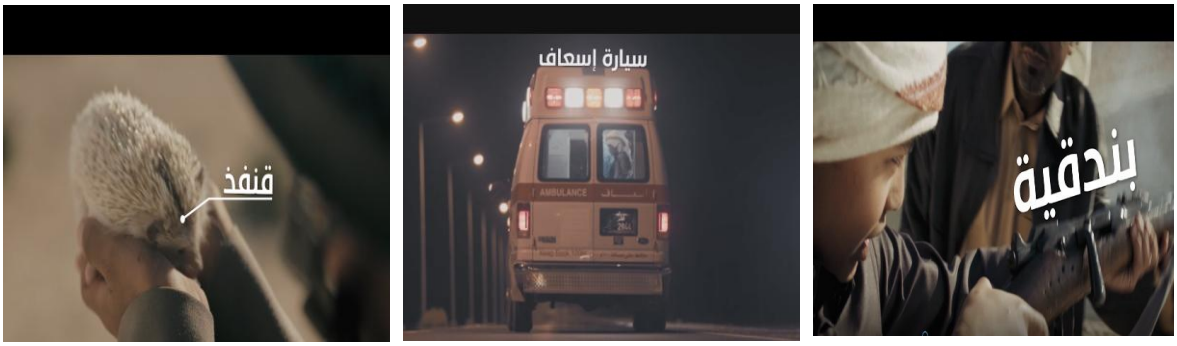


*Image 1: Examples of Creative Subtitling*

The second version was produced by applying local SDH parameters. Here, the chosen vocabulary was highlighted in yellow, using bigger font (see image 2).

*Image 2: Example of SDH*

In this version, each word appeared three times. In order to make sure that each word appeared three times, the film script was manipulated. For instance, when the boy carried the hedgehog saying, "I got you finally" the subtitle read "I got you *hedgehog*!" Furthermore, the subtitles containing the new vocabulary were deliberately adapted. To this effect Neves (2007: 95) notes, "readable subtitles may mean more simplification and reduction, but may also mean explication and addition."

Table 1: Examples of reductions and additions used in the SDH version

| Original sentence | Back translation | Reduction | Back translation |
|---|---|---|---|
| نعم يا أبي | Yes dad | نعم | Yes |
| لا، لم أجد شيئًا | No, I did not find anything | لا | No |
| Original sentence | Back translation | Addition | Back translation |
| هل وجدت شيئًا يا علي | Have you found anything, Ali | هل وجدت شيئًا في **الصحراء** يا علي؟" | Have you found something in the **desert**, Ali |

**From Lesson plans to classes**

The researcher and teachers developed their own lesson plans and conducted their classes without consulting with each other. The students were randomly divided into 3 groups and took part in what, to them, were regular Arabic classes. The intrusion of the researcher delivering a class was mitigated by the presence of the sign language interpreter that is often in their classes.

**Experimental ES lesson**

The experimental lesson, as mentioned before, was based on a plan (appendix 1) that aimed to promote specific cognitive abilities. This materialized in activities in which students identified, repeated, reproduced and related the given terms, finally to apply them in new contexts. Throughout the lesson, the students carried out most of the activities independently.

**RT Lesson**

In the reading-based control group lesson, students were provided with print and electronic versions of the text (a version of the story based on the film written by the teacher herself). The electronic version was displayed on the board using a projector along with five pictures of the vocabulary. Students were also provided with printed pictures (a combination of animated and photograph pictures) along with the vocabulary and its definitions.

**SL Lesson**

In the SL-based lesson, students watched *Kashta* without subtitling or SL. Then each student explained the film in SL. Some pictures of the new vocabulary were then displayed using the projector, and the 5 vocabulary items were written on the board and signed by the teacher.

**Testing**

As mentioned above, all students were tested in three moments: directly after the lesson, one day later and one week later. This was done on the premise that deaf students tend to

forget what they learn given their poor working memories. The tests were mediated by the interpreter and students responded using Sign Language (SL) and writing (W).

Table 2: Marks achieved by the three classes in all tests

| | | **Test 1 (same day)** | | **Test 2 (next day)** | | **Test 3 (week later)** | | |
|---|---|---|---|---|---|---|---|---|
| | **Students** | **SL Max. 5 marks** | **W Max. 5 marks** | **SL Max. 5 marks** | **W Max. 5 marks** | **SL Max. 5 marks** | **W Max. 5 marks** | **Marks out of 30** |
| **ES Class** | S1 | 5 | 4.5 | 5 | 5 | 5 | 4.5 | 29 |
| | S2 | 5 | 5 | 5 | 5 | 5 | 5 | 30 |
| | S3 | 5 | 5 | 5 | 5 | 5 | 5 | 30 |
| **RT Class** | S4 | 2 | 0.5 | 3 | 2 | 3 | 0.5 | 11 |
| | S5 | 5 | 2.5 | 5 | 5 | 5 | 2.5 | 25 |
| | S6 | 5 | 2.5 | 5 | 5 | 5 | 5 | 27.5 |
| **SL Class** | S7 | 5 | 1.5 | 5 | 4.5 | 5 | 1 | 22 |
| | S8 | 4 | 1.5 | 5 | 5 | 5 | 3.5 | 24 |
| | S9 | 5 | 1.5 | 5 | 5 | 5 | 3 | 24.5 |

In the writing components, a word was considered correct even if it was misspelt but yet recognizable; i.e. if a letter was missing, added, or replaced with another that was very similar[1]. If the word was misspelt with a major spelling error, it was considered wrong, and consequently the student would lose a mark. The major or minor errors in the rest of the sentences were disregarded as long as they did not affect the meaning. In other words, the sentence was considered correct if it showed that the student had captured the meaning.

**Test Results**

The average of the students' results in the SL part shows that the ES class achieved the best results: 100%. The next most successful class was the SL class: 98%. The least successful class was the RT class: 84%.

The average of the students' results in the writing parts shows that the ES class achieved the highest percentage: 98%. The next most successful class was that the one in the SL class: 59% and the least successful class was the RT class: 57%.

The overall average of students' results in both SL and writing parts shows that the ES class achieved the highest percentage: 99%, the next successful class was the SL class: 78% and the least successful class was the RT class: 71%. Overall results may be seen in image 3.

[1] Some letters in Arabic are very similar; the only difference is the dotting. For example, (ع، غ), (ف,ق), (د, ذ).

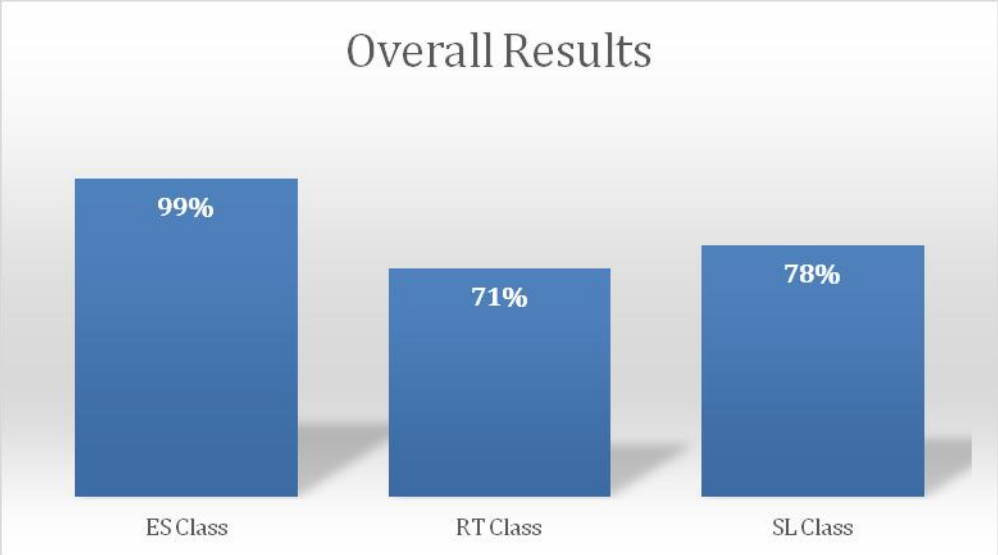


*Image 3. Average of overall results*

Despite the small number of informants, a Kruskal-Wallis Test was conducted using significance level equals 0.05, to compare the three classes. The results indicated a statistically significant difference among the three classes, with a p-value =0.018. Furthermore, the application of a Mann-Whitney Test indicated a statistically significant difference between the ES and RT classes of p-value =0.007, and a statistically significant difference between the ES class and the SL class of p-value =0.020. However, there is no statistically significant difference between the RT and the SL classes, as the p-value =0.964

**Post-experiment measures**

The study would not be considered complete until the given outcomes were further analyzed in the light of semi-structured interviews with the two Arabic teachers, who participated in the teaching process, and the sign language interpreter, who attended the ES class. A third element was the collection of students' feedback on the ES lesson experiment.

In the interviews the teachers were asked about their class objectives, the way they staged the class, the activities that contributed towards their objectives, whether their methods could be improved, and how the ES method could be used in their classes.

The ES students' feedback was collected using a survey with simple statements about the lesson strategies and their enjoyment. At the end of the survey, there was an overall assessment of the activity that students rated in a Likert scale using a set of five stars.

**Discussion**

Since this small case study is experimental in nature and no previous academic research in Qatar had been conducted on the use of ES in teaching/learning vocabulary, the outcomes have to be read in the light of the reality of Deaf education in Qatar, particularly in reference to teaching new vocabulary.

The information gathered in a pre-experiment focus group discussion was confirmed later in the classrooms in the RT and the SL groups. The qualitative data collected by the researcher from the RT and SL class align with the quantitative data collected from students' test results. The results of the RT group, which was the least

successful group, reflect the lack of consistency in the teaching methods and tools used in this lesson. Moreover, the teacher did not focus on the vocabulary as much as she did on the definitions, which were sometimes either too broad or too restrictive. For example, the word "desert" was defined as "أرض كبيرة" [big land], and the word "gun" was defined as "أداة صيد" [hunting tool]. Furthermore, the activities did not include writing at all, so students were not given enough opportunities for reinforcement of the written word. As a result, this class was the least successful class in the writing tests, attaining only 57% of correct answers.

The test results of the SL class were slightly better than that of the RT class, with an achievement of 59%. Although the students could not recognize the words in some occasions, they could put most of the words in sentences, unlike the RT class. Interestingly, the students wrote sentences describing some of the scenes they watched in the film, using Qatari dialect. However, they could not pinpoint the specific vocabulary. This indicates the positive impact watching films has on comprehension, as confirmed before by scholars who saw how watching TV can enhance children's comprehension. See (Lorch and Anderson, 1979; Searls et al., 1985).

In this experiment, the ES class achieved the highest vocabulary acquisition rates. The results suggest the positive impact of this teaching approach on the short term and long term memory, which confirms the correlation between learning strategies and reinforcing memory. The teaching method used in the ES class depended on three elements. First, the tool (ES), through which the students were exposed to the vocabulary when watching SDH and CS. Second, the TC educational approach, through which, students were exposed to multimodal stimuli, including visual and manual modes. Third, the learning model that helped students (1) *remember*, by repeating the vocabulary in both versions (CS and SDH), and also through vocabulary copying activities; (2) *understand*, by using "comprehensible input" (Krashen, 1982: 11), in this case, the film, which contextualized the vocabulary in a meaningful way; and (3) *apply*, by carrying out activities that required the use of the vocabulary in new contexts.

It was found that the students of the RT and SL classes did better when asked to match words to pictures or simply write the word for the picture than when asked to write sentences about the pictures. This shows that the students could identify the word but could not apply it in a new context. In contrast, the students of the ES class did well in all respects, which indicates that they had acquired the vocabulary because they remembered the words, comprehended their meaning and were able to use the vocabulary creatively. Interestingly, the ES class achieved the best results in the SL tests, when compared to the other two classes, which suggests the positive impact of simultaneously exposing students to SL and subtitles in the context of AVT.

The qualitative results, gathered from the post-experiment surveys, confirmed the quantitative results gathered from the tests. All students stated that they enjoyed and benefited from the new method. This was equally confirmed in the teachers' interviews. Teachers also stated that the holistic TC approach was the main reason for the experimental class' success. In fact, both in the pre and post-experiment interviews, teachers stressed the importance of creating new curricula that can respond to the specific needs of deaf students in Qatar.

## Conclusion

The straightforward results of the study strongly suggest that ES can be used effectively for pedagogical purposes, in general, and for teaching vocabulary in particular, which

proves the research hypothesis that using Enriched Subtitling can help students acquire vocabulary more easily.

It is clear from the discussion in this small case study that the findings go beyond the initial hypothesis that ES helps students acquire vocabulary more easily. Further to the tool used, ES, importance lies in the educational approach and the pedagogical model. Although the ES was the key element in the lesson plan, the Total Communication approach within the revised Bloom's typology approach enhanced the cognitive processes that lead to effective learning.

Although this study was limited by its small sample, its results are stimulating. Moreover, the study could have been taken further if the subtitle enrichment had not simply been a post-production procedure, but rather a case of creative subtitling from inception, as proposed by Romero-Fresco (2013) and Fox (2017). In this particular case, creating a film using the accessible filmmaking technique were not an option.

Given the outcomes of this small study, is believed that further empirical research is essential, addressing this and other relevant educational issues, in close collaboration with educators and using larger research samples, with a wider range of deaf student profiles in terms of age, gender and proficiency.

In conclusion, no one can obtain an adequate education and therefore achieve full inclusion in society without learning the language of the community they belong to. It is clear that deaf students in Qatar will not be able to achieve their full potential and will continue to be considered "less" than others unless they develop strong linguistic competency. The educational authorities, and people in general, have to accept that the dual and interconnected problems of low academic achievement in deaf education and the failure to acquire the national language are not due to cognitive or sensory difference. Instead, the issue lies in the curricula students are subjected to and the lack of creativity in the educational methods used in the classroom. If school is the only environment in which deaf students can freely and easily communicate with their peers, it is difficult to imagine how they can integrate in mainstream society, if they have not acquired the national language in its written form. As (Sacks, 1990: 40) notes "[a] human being is not mindless or mentally deficient without language, but he is severely restricted in the range of his thoughts, confined, in effect, to an immediate, small world." Thus, if we are to break down the barriers of this "small world", national language acquisition must become a priority in the deaf classroom, and audiovisual translation may become a central tool in this process if integrated in a thoughtful manner in teaching/learning strategies used.

## References


Al Attiyah, A., & Mian, M. (2009). Disability in the state of Qatar. In C. A. Marshall, E. Kendall, M. E. Banks, & M. S. Gover (Eds.), *Disabilities: Insight from across fields and around the world* (Vol. 3, pp. 28–42). Westport: Praeger Perspectives.

Aldaher, A. (2017). *Audiovisual Translation Raising Awarness Towards the Communication Need of Deaf Children* (Master's thesis). Hamad Bin Khalifa University.

Allen T. (1986). Patterns of academic achievement among hearing impaired students: 1974 and 1983. In A.N. Schildroth and M.A. Karchmer (Eds.), *Deaf children in America* (pp. 161-206). Boston, MA: College-Hill Press.

Althani, A.J. (Director). (2016). *Kashta* [Film]. Qatar: Film House.

Bravo, C. (2010). Text on screen and text on air: A useful tool for foreign language teachers and learners. In J.D. Cintas, A. Matamala & J. Neves (Eds.), *New insights into audiovisual translation and media accessibility: Media for all 2*. (269-284). Amsterdam: Rodopi.

Bümen, N. T. (2007). Effects of the original versus revised Bloom's Taxonomy on lesson planning skills: A Turkish study among pre-service teachers. *International Review of Education*, *53*(4), 439–455. https://doi.org/10.1007/s11159-007-9052-1

Denton, D. M. (1972) A rationale for total communication. In T.J. O'Rouke (Ed.) *Psycholinguistics and total communication: The state of the art* (pp.53-61). Washington DC: American Annals of the Deaf.

Drasgow, E. (1993). Bilingual/Bicultural Deaf education: An overview. *Sign Language Studies*, (80), 243–266. Retrieved from http://www.jstor.org/stable/26204676

Easterbrooks, S.R. (2010). Evidence-based curricula and practices that support development of reading skills. In M. Marschark & P.E Spencer (Eds.) *The Oxford handbook of deaf studies in language*. (pp. 111-126). Oxford: Oxford University Press.

Easterbrooks, S. R. & Trussel J.W. (2016). Encouraging emergent reading in deaf and hard-of-hearing children. In M. Marschark & P.E Spencer (Eds.), *The Oxford handbook of deaf studies in language*. (pp. 377-392). Oxford: Oxford University Press.

Ehri, L.C. (2005). Learning to read words: Theory, findings, and issues. *Scientific Studies of Reading*, 9(2), 167-188. Retrieved from https://doi.org/10.1207/s1532799xssr0902_4

Foerster, A. (2010). Towards a creative approach in subtitling: A case study. In J.D. Cintas, A. Matamala & J. Neves (Eds.), *New insights into audiovisual translation and media accessibility* (pp. 81–98). Amsterdam: Rodopi.

Fox, W. (2017). A proposed set of placement strategies for integrated titles. *TRAlinea.Online Translation Journal*, (Special Issue: Building Bridges between Film Studies and Translation Studies). Retrieved from http://www.intralinea.org/specials/article/a_proposed_set_of_placement_strategies_for_integrated_titles

Hands and Voices. (2014). *Communication considerations: Total communication*. Retrieved from http://www.handsandvoices.org/comcon/articles/totalcom.htm

Hermans, D., Knoors, H., Ormel, E., & Verhoeven, L. (2008). Modeling reading vocabulary learning in deaf children in bilingual education programs. *Journal of Deaf Studies and Deaf Education*, *13*(2), 155–174. Retrieved from http://www.jstor.org/stable/42658926

Hukoomi. (2018). *The constitution*. Retrieved March 9, 2018. Retrieved from http://portal.www.gov.qa/wps/portal/about-qatar

Koolstra, C. M., & Beentjes, J. W. J. (1999). Children's vocabulary acquisition in a foreign language through watching subtitled television programs at home. *Educational Technology Research and Development*, *47*(1), 51–60. Retrieved from http://www.jstor.org/stable/30220229

Kothari, B. (1998). Film songs as continuing education: Same language subtitling for literacy. *Economic and Political Weekly*, *33*(39), 2507–2510.Retrived from http://www.jstor.org/stable/4407205

Kothari, B., Pandey, A., & Chudgar, A. R. (2004). Reading out of the "idiot box": Same-language subtitling on television in India. *Information Technologies & International Development*, *2*(1), 23–44. Retrieved from http://dev.itidjournal.org/index.php/itid/article/view/191

Krashen, S. D. (1982). *Principles and practice in second language learning*. NY: Pergamon.

Krashen, S. D. (1989). We acquire vocabulary and spelling by reading: Additional evidence for the input hypothesis. *The Modern Language Journal*, *73*(4), 440–464. Retrieved from https://doi.org/10.2307/326879

Kyle, F. E., & Harris M. (2006). Concurrent correlates and predictors of reading and spelling achievement in deaf and hearing school children. *Journal of Deaf Studies and Deaf Education* 11(3), 273-288.Retrived from https://0-www-jstor-org.library.qnl.qa/stable/42658824

Kyle, F. E., & Harris, M. (2010). Predictors of reading development in deaf children: A 3-year longitudinal study. *Journal of Experimental Child Psychology*, 107(3), 229-43. DOI:10.1016/j.jecp.2010.04.011

Katan, D. (2018). "Free Free… Set them free". What deconstrained subtitles can do for AVT. In I. Ranzato and S. Zanotti (Eds.), *Linguistic and cultural representation in audiovisual translation* (pp.61-84). New York and London: Routeledge.

Lewis, G., Jones, B., Baker, C. (2012). Translanguaging: devoloping its conceptualization and contextualization. *Educational Research and Evaluation*, 18 (7), 655-670.

De Linde, Z., & Kay, N. (1999). Processing subtitles and film images. *The Translator*, *5*(1), 45–60. Retrieved from https://doi.org/10.1080/13556509.1999.10799033

Lorch, E. P., & Anderson, D. R. (1979). The relationship of visual attention to children's comprehension of television. *Child Development*, *50*(3), 722–727. Retrived from https://doi.org/10.2307/1128938

Luckner, J., Sebald, A., Cooney, J., Young, J. &Muir, S. (2005/2006). An examination of the evidence-based literacy research in deaf education. *American Annals of the Deaf* 150(5), 443-454.

Mayer, C., & Trezek, B. J. (2015). *Early literacy development in deaf children*. Oxford: Oxford University Press.

Mayer, C. (2016). Rethinking total communication: Looking back, moving forward. In M. Marschark & P.E. Spencer (Eds.), *The Oxford handbook of deaf studies, language and education*. vol.2, (32-44). New York, NY: Oxford University Press.

McClarty, R. (2012). Towards a multidisciplinary approach in creative subtitling. *MonTI. Monografías de Traducción e Interpretación*, (4). Retrieved from http://www.redalyc.org/resumen.oa?id=265125413006

Mindel, E. D. (1974). Deaf education: A child psychiatrist's view. *Peabody Journal of Education, 51*(3), 153–161. Retrieved from https://doi.org/10.1080/01619567409558519

Moores, D.F. (2010). The history of language and communication issues in deaf education. In M. Marschark & P.E. Spencer. *The Oxford Handbook of Deaf Studies, Language and Education*. vol.2, (pp 17-30). New York, NY: Oxford University Press.

Neuman, S. B., & Koskinen, P. (1992). Captioned television as comprehensible input: Effects of incidental word learning from context for language minority students. *Reading Research Quarterly*, *27*(1), 95–106. Retrieved from https://doi.org/10.2307/747835

Neves, J. (2005). *Subtitling for deaf and hard of hearing* (Doctoral dissertation) Roehampton University. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.129.1405&rep=rep1&type=pdf .

Neves, J. (2007). A world of Change in a changing world. In J. D. Cintas, P. Orero, & A. Remael (Eds.), *Subtitling for the deaf, audio description, and sign language: Media for all.* (pp. 89–98). Amsterdam: Rodopi.

Neves, J. (2008). 10 fallacies about Subtitling for the d/Deaf and the hard of hearing. *The Journal of Specialised Translation*, (10), 128–143.Retrived from http://www.jostrans.org/issue10/art_neves.php

Neves, J. (2018). Subtitling for deaf and hard of hearing audiences (SDH): moving forward. In L. Perez-Gonzalez (Ed.), *The Routeledge Handbook of Audiovisual Translation*. (pp. 82-95). London: Routledge.

Nornes, A. M. (1999). For an abusive subtitling. *Film Quarterl*y, 52(3), 17–34. Retrieved from https://doi.org/10.2307/1213822

Paul, P.V. (1996). Reading vocabulary and deafness. *Journal of Deaf Studies and Deaf Education* 1(1), 3-15.Retrived from https://doi.org/10.1093/oxfordjournals.deafed.a014279

Quigley, S. P., & Kretschmer, R. E. (1982). *The Education of Deaf Children: Issues. Theory, and Practice.* London: Edward Arnold.

Quigley, S. P., & Paul, P. V. (1984). *Language and deafness*. San Diego: College-Hill Press.

Remael, A. (2007). Sampling subtitling for the deaf and the hard-of- hearing in Europe. In J. D. Cintas, P. Orero, & A. Remael (Eds.), *Subtitling for the deaf, audio description, and sign language: Media for All.* (pp. 28–69). Amsterdam: Rodopi.

Rodda, M., & Grove, C. (1987). *Language, Cognition, and Deafness*. Hillsdale: Lawrence Erlbaum Associates.

Romero-Fresco, P. (2013). Accessible filmmaking: Joining the dots between audiovisual translation, accessibility and filmmaking. *The Journal of Specialised Translation*, (20), 201–223. Retrived from http://www.jostrans.org/issue20/art_romero.php

Romero-Fresco, P. (Ed.). (2015). *The reception of subtitles for the deaf and hard of hearing in Europe*. Bern: Peter Lang. Retrieved from http://bw.swps.edu.pl/info/book/SWPSb175996988df4d4ba53143f3ebb507fe/The+Reception+of+Subtitles+for+the+Deaf+and+Hard+of+Hearing+in+Europe+title#.Wq03bpdlDIU

Romero-Fresco, P. (2018). Reception studies in live and pre-recorded subtitles for the deaf and hard of hearing. In E. di Giovanni & Y. Gambier (Eds.), *Reception studies and audiovisual translation.* (pp. 199-224). Amsterdam & Philadelphia: John Benjamins.

Sacks, O. (1990). *Seeing voices: A journey into the world of the deaf*. NY: Harper Pernnial.

Sala Robert, E. (2016). *Creative subtitles: Subtitling for all* (Doctoral dissertation). University of Pompeu Fabra, Barcelona. Retrieved from http://www.tdx.cat/handle/10803/398140

Scheetz, N. A. (2012). *Deaf education in the 21st century: Topics and trends*. New Jersey: Pearson.

Scouten, E. (1984). *Turning points in the education of deaf people*. Danville, IL: The Interstate Printers and Publishers.

Searls, D. T., Mead, N. A., & Ward, B. (1985). The relationship of students' reading skills to TV watching, leisure time reading, and homework. *Journal of Reading*, *29*(2), 158–162.Retrived from http://www.jstor.org/stable/40029643

Schlesinger. H. (1986). Total communication in perspective. In D. M. Luterman (Ed.) *Deafness in perspective* (87-116). San Diego, CA: College-Hill Press.

Streng, A. H., Kretschmer, R. R., & Kretschmer, J. L. W. (1978). *Language, learning, and deafness: Theory, application, and classroom management*. New York: Grune & Stratton.

Swanwick, R. 2016. Scaffolding learning through classroom talk: The role of translanguaging. In M. Marschark & P.E Spencer. (Eds.) *The Oxford Handbook of Deaf Studies in Language*. (pp. 420-430). New York: Oxford University Press.

Talaván, N. (2010). Subtitling as a task and subtitles as support: pedagogical applications. In J.D. Cintas, A. Matamala & J. Neves (Eds.), *New insights into audiovisual translation and media accessibility: Media for All 2*. (pp. 285-300). Amsterdam: Rodopi.

The Amiri Diwan of the State of Qatar. (2019). *Legislations.* Retrieved January 14, 2019. Retrieved from file:///D:/Users/RH15377/Downloads/7%20%202019%20%20%20%20%20-%20MC%20(1).pdf

Traxler, C. B., (2000). The Stanford achievement test, 9th edition: National norming and performance standards for deaf and hard of hearing students. J*ournal of Deaf Studies and Deaf Education* 5, 337-348. Retrieved from https://academic.oup.com/jdsde/article/5/4/337/387412

United Nations. (n. d.). *Universal declaration of human rights.* Retrieved at from http://www.un.org/en/universal-declaration-human-rights/index.html.

Zárate, S. (2010). Bridging the gap between deaf studies and AVT for deaf children. In J.D. Cintas, A. Matamala & J. Neves (Eds.), *New Insights into audiovisual translation and media accessibility. Media for all 2.* (pp. 159–174).: Rodopi.

Zárate, S. (2014). *Subtitling for deaf children: Granting accessibility to audiovisual programms in an educational way* (Doctoral Dissertation) University College London, London. Retrieved from http://discovery.ucl.ac.uk/1455707/

Zárate, S. & Eliahoo, J. (2014). Word recognition and content comprehension of subtitles for television by deaf children. *The Journal of Specialised Translation*, (21), 133–152.Retrived from https://www.researchgate.net/publication/265756151_Word_recognition_and_content_comprehension_of_subtitles_for_television_by_deaf_children

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