

Audiovisual translation tools for the assessment of hard of hearing students

Ana María Hornero Corisco 
ahornero@unizar.es

Pilar Gonzalez-Vera 
pilargv@unizar.es

University of Zaragoza, Spain

ABSTRACT

The Spanish University requires all its students to reach a specific level in a foreign language, as part of the requisites to obtain their degrees. At present, there is a lack of homogeneity in the criteria set for the assessment of hard of hearing students' skills. A preliminary survey reveals the current measures applied in a number of Spanish universities. Our suggestion is that a uniform listening test should be implemented for hard of hearing students. The main goal of our research was to check what kind of test is more adequate for these students. For that purpose, several hard of hearing students did different listening activities using audiovisual materials that had been previously edited and adapted to their special needs. They also responded to different question tasks: multiple-choice, true/false, gap-filling. The results throw some light on the type of test format that should be used with the hard of hearing community.

Keywords: *EFL assessment; SDH; hearing-impaired university students; audiovisual texts; listening comprehension test; Spanish university*

I. INTRODUCTION

The Spanish University requires all its students to reach a specific level in a foreign language –established by the Common European Framework of Reference for Languages (henceforth CEFR)– as part of the requisites to obtain their degrees in any discipline. That means all students must pass a language exam designed and conducted by the universities themselves or, alternatively, take an external exam (such as the Cambridge English Preliminary (PET) or First (FCE)), to provide evidence of that command of a foreign language, which is, predominantly, English. Hard of hearing students must also comply with this requisite.

The University of Zaragoza issues the CertAcles B1 certificate through the Centro Universitario de Lenguas Modernas. This certificate, approved by the CRUE (Conferencia de Rectores de las Universidades Españolas), the Government of Aragón and the Ministry of Education, is issued by Spanish universities¹. The test assesses

reading comprehension, listening comprehension, writing and speaking. The details on the assessment of every skill are shown on the web page of the Centro Universitario de Lenguas Modernasⁱⁱ.

The Royal Decree 1791/2010 of 30 December, on the status of university students, establishes that the assessment tests must adapt to the needs of students with disabilitiesⁱⁱⁱ, starting with the University Entrance Examination, as specified in the Royal Decree 1892/2008, 14 November^{iv}. In the case of students entering a Master's degree programme, the university should also provide support, advice and consider the adaptations required.

After some months of cooperation with the Office of Disability Services at the University of Zaragoza we had the suspicion that there was lack of homogeneity in the criteria set for the assessment of hard of hearing candidates in their foreign language exams nationwide.

II. LITERATURE REVIEW

This work has been inspired by previous research on subtitling as well as by the work carried out by professionals related to students with disabilities. In this line, a useful starting point has been the *Guía de adaptaciones en la Universidad, de la Red de Servicios de Apoyo a Personas con Discapacidad en la Universidad* (SAPDU, 2015)^{vii}, written in collaboration with the National Organisation of the Spanish Blind (ONCE) and the CRUE. This association comprises 76 Spanish universities. In the section on teaching, it recommends the use of subtitles when using videos in class.

We also consulted the Standard UNE 153010 (AENOR, 2012)^{viii} and the analysis of current practices in subtitling for the deaf and hard of hearing in Spain, like the work by Báez Montero and Fernández Soneira (2010). They undertake a revision of the features that characterise subtitle recipients (i.e., deaf readers of closed-captions) that present deep deafness or have a partial loss of hearing.

Our research is aimed not at profound prelocutive deaf students, whose “hearing loss appears during gestation or within the first two years of life” (Fischer, 2012, p.306). These students are exempted from taking the listening and oral tests. It is aimed,

instead, at postlocutive deaf students, for whom subtitles should work well increasing the exposure time of the captions on the screen, and at implanted deaf, who may be even able to read unadapted captions.

Also, helpful has been Pereira (2010), whose contribution intends to check the validity and functionality of a set of technical, orthotypographical and linguistic criteria for elaborating subtitles for deaf and hard of hearing adults in Spain. Moreover, Lorenzo's (2010) recommendations serve as a guide to be taken into consideration when drafting the *Spanish Standard for Subtitling for Deaf and Hard of Hearing for digital television*. Her recommendations are distributed into three levels of interest: the technical, the linguistic and the cultural level. Lorenzo and Pereira also (2011) present some of the most frequent difficulties met by subtitlers of audiovisual texts for the deaf, highlighting oral language comprehension problems and comprehension problems derived from culture and intertextuality. Pazó (2011) supports the issue of adapted subtitles that allow the deaf and hard of hearing viewers to exercise their right to information. For that purpose, she explains the need and the advantages of adapted subtitles and describes that process of adaptation. Varela Romero's (2011) analysis makes clear the urgent need of guides for subtitlers, which should, among other things, contain glossaries of the commonest vocabulary for deaf viewers as well as information about the structures that facilitate the decoding of the message. Moreover, Talaván (2019) points out the efficiency of the use of subtitles for the deaf and hard of hearing (SDH) as a pedagogical tool in L2 settings, particularly in the enhancement of listening and writing skills. These research articles, among others, have been taken into consideration for the elaboration of our proposal.

III. CASE STUDY

III.1. Participants

The Office for Students with Disabilities at the University of Zaragoza provided 28 hard of hearing students (all of them had partial hearing loss and used hearing aids or had cochlear implants). They were divided into two groups: Group A included those with lower linguistic abilities, and Group B were more mature linguistically. Each of these groups was then subdivided into two, A1-A2 and B1-B2, so that all students could take

all test formats, which would allow them to have a broader vision of assessment methodologies; the results obtained would also be more reliable.

III.2. Methodology

The main interest of this research was to check what kind of test was more adequate for hard of hearing students. Three types of listening comprehension tests were distributed, where all the questions were closed, so as to get the most objective results. Our study, structured in two stages, had as a point of departure the results of the preliminary survey, which reveals the criteria of the different Spanish universities regarding the requirements needed in the case of hard of hearing students. Then we proceeded, in the first place, to carry out a series of listening activities in which different test formats were used. An analysis followed that included both the comparison of the students' results in the activities proposed and a post-questionnaire where students assessed the activities.

III.2.1. Preliminary survey

In order to verify this, we designed a short survey and the Office of Disability Services at the University of Zaragoza distributed it to the 58 Spanish universities which belong to the SAPDU network (Red de Servicios de Apoyo a Personas con Discapacidad en la Universidad, in Spanish). The aim was to obtain a clearer map of the skills currently considered in the assessment of the foreign language ability of hard of hearing students. At this stage, we needed to find out:

- a) The level of command of a foreign language required in each university to obtain a bachelor degree or to enrol in a Master's programme.
- b) What skills hard of hearing students need to pass that exam.
- c) How their listening skills are assessed, and more precisely, whether they had to take the same listening tests as the other students.

How their oral skills are assessed, and more precisely, whether they had to take the same oral tests as the other students.

III.2.1.a. Answers

A total of eighteen universities, namely, the University of Alicante, the Autonomous University of Barcelona, the University of Barcelona, two campuses of the Carlos III University of Madrid, the Catholic University of Valencia, two campuses of the Complutense University of Madrid, the University of Córdoba, the Jaume I University, the University of La Coruña, the University of La Rioja, the University of Málaga, the Miguel Hernández University, the University of Oviedo, the Comillas Pontifical University, the University of Salamanca, the University of Santiago de Compostela, the University of Valencia and the University of Zaragoza, participated in the survey, which represents 31% of the total number addressed. The number of hard of hearing students ranged from three (University of Oviedo) to fifty (University of Valencia and Complutense University of Madrid, in two campuses^v). The results of our observation were the following:

- a) With regard to the level of command of a foreign language required to obtain a bachelor's degree or to enrol in a Master's programme, in the majority of cases, 15 universities (83.25%) B1 is the requirement. In the two universities of Barcelona (11.11%) it is B2; only one, the Miguel Hernández University, answered that no level is required.
- b) There seems to be certain homogeneity in the universities' criteria for the skills assessed in the case of hard of hearing students. Three skills are tested in the majority of the enquired universities: writing in 17 (94.35%), listening in 16 (88.8%) and reading in 14 (77.7%), while speaking is only required in eight universities (44.4%). Two universities did not answer this question.
- c) For students who do not have a disability the oral production test may consist of a dialogue or/and the exposition of a subject during 7-10 minutes. As the description of the test points out, two tasks are undertaken and the test is recorded^{vi}. When asked about how they assess the oral production skills of their hard of hearing students, the results were: 8

universities did not answer this question, 7 adapt or modify the test, according to the level of hearing loss, the adaptation consisting in a time extension; and 3 universities admitted that the hard of hearing students take the same test as the rest of students. There is, therefore, no agreement on the type of oral production test for hard of hearing students.

For students who do not have a disability the listening comprehension test consists in hearing or watching a minimum of two and a maximum of four documents, where students have to answer multiple-choice, true/false, matching pair questions. As to how hard of hearing students are tested in their listening skills, five universities did not answer this question, three offer a lip-reading test, and three admitted that the hard of hearing take the same test as the rest of students. The rest adapt or modify the test, according to the level of hearing loss: the listening test may be replaced with a written exam, or may be combined with lip-reading; in other cases, the adaptation may consist in a time extension. The answers of the universities do not specify how they grade this level of impairment, although, according to the information provided by the Office of Disability Services at the University of Zaragoza, the procedure for grading is similar in all universities. All this shows that there is no agreement on the type of listening test for hard of hearing students. This encouraged us to suggest a method, supported by previous research on accessibility (Lorenzo & Pereira, 2011; Pereira, 2010) and usability of subtitles for the deaf and hard of hearing, to assess listening comprehension skills in hard of hearing students.

III.2.2. The texts

III.2.2.a. Subtitling

The three texts chosen for this study complied with the B1 level of English (according to the CEFRL)^{ix}. They were documentaries with only one voice, the narrator's, dealing with the Orinoco River, the process of mummification and the Australian landmark Uluru^x. They lasted for three minutes each, following the recommendations of scholars like Rost (2002) and Talaván (2013), and they were also self-contained so that their comprehension did not depend on previous scenes and the level of concentration required was not too high. In all the cases, they were listened three times. The clips on

the Orinoco River and the process of mummification were subtitled in English according to the established conventions of SDH (subtitling for Deaf and Hard of Hearing) included in the present Spanish regulation UNE-153010 (AENOR, 2012). Besides this, they were also prepared for lip-reading^{xi}.

The subtitles were positioned near the bottom-centre of the screen. As Pereira (2010, p.90) points out, “deaf and hard of hearing viewers are used to this format since most television channels, following the Standard UNE 153010 recommendations, use this format for non-simultaneous subtitles”. We used an opaque box so that the text would not fade into the background. Only one colour was used in the clip, as there was only one voice, the narrator’s. The subtitling process also included the adaptation of the reading speed to SDH. According to some studies carried out in the United Kingdom, the reading ability of prelocutive deaf viewers is one or two words per second, which means that subtitles should be displayed between one and five seconds longer than for hearing viewers or postlocutive deaf viewers (Pereira, 2010). Thus, the six-second rule used in general subtitling that supports a reading speed of 17 cps (characters per second) was replaced with 15 cps in SDH, in accordance with the UNE-153010 (AENOR, 2012). According to Báez Montero (2010, p.39) “research on the reading levels of the Deaf reveals that the population that generally finishes compulsory school reaches a reading-writing level comparable only to the reading-writing level of a hearing counterpart aged 10”. Furthermore, she points out:

because of educational issues (...) the deaf users’ command of a second language (L2) or foreign language in a written version does not allow them to read at the same rate found for users reading a first language (L1). This is why it will be essential to adapt the speed of the captions to their needs so that they can grasp the actual message of the captions (Báez Montero, 2010, p.42).

Therefore, we had to opt for the strategy of omission in those cases in which the image allowed the students to infer the referent. As is well known, overall comprehension of a subtitled audiovisual text does not rely only on subtitles. For hard of hearing youngsters, image is probably the main way to build meaning (Lorenzo, 2010, p.146).

We also reduced the number of characters, using „river“ or „delta“ as a substitute for „the Orinoco River“ or „the Orinoco delta“, respectively, in order to match the speed-reading restrictions and facilitate the reading, respecting the technical limits of the subtitle, being at all times loyal to the content of the video clip (Pazó, 2011). In addition, in the

clip on the Orinoco we had to cope with another problem: vocabulary. We cannot forget that the hearing impaired do not have a wide range of vocabulary in their mother tongue or in their second language. Therefore, the strategy applied in those cases was the replacement of the complex term „capybara“ with an easier one, „rodent“. This substitution technique is frequent in the creation of subtitles for the hard of hearing. The structure and vocabulary of the adapted subtitle gets closer to their linguistic competence, making a more complete reading comprehension possible. However, the adapted subtitle does not always correspond with the audio, leading therefore to the feeling that some information gets lost. This could possibly be avoided by putting into effect awareness-raising campaigns (Pazó, 2011).

In the clip about the process of mummification, as in the previous one, we found problems of relatively hard terminology and reading-speed. Moreover, due to the somehow technical nature of the text, there were originally more difficult words and syntax was more complex, too, for this specific audience. Therefore, we had to pay special attention to the choices made in terms of structures and lexis, making sure that the chosen elements would be understood by deaf viewers, relating new knowledge (lexis, cultural referents or structures) to the knowledge that they already had (Lorenzo 2010, p.143). For this reason, the vocabulary was adapted, following the same strategy as in the clip on the Orinoco. We replaced those terms with others with similar or identical meaning. For example:

Table 1. Adaptation of the vocabulary in the text on the process of mummification

Original version	Subtitled version
Pouch	Bag
Religious significance	Religious value
Wading bird	Bird
Bill	Beak
Votive offerings	Offerings
Shroud	Cloth

We omitted them whenever possible, as in „imported lead-based pigment“, which was reduced to „imported pigment“.

About syntax, we cannot forget that the passive voice is too abstract for the hard of hearing, although not so for regular students. This led us to turn the passive voice into active or to use the continuous form, simplifying both complex structures and verb forms, according to the guidelines proposed by the UNE-153010 (AENOR, 2012, p.29), as shown in Table 2:

Table 2. Adaptation of the syntax in the text on the process of mummification.

Original version	Subtitled version
All moisture was eliminated	eliminating all moisture
Being mummified with a human	mummified with a human
A portrait panel was placed over the face	a portrait was over the face
A large linen cloth was wrapped around the mummy	a large linen cloth wrapped around the mummy
Very few red mummies are known to exist	very few red mummies exist
All moisture was eliminated	eliminating all moisture

We also considered maintaining those words which could be clearly identified due to their position in the sentence. This was the case of „very few red mummies are known to exist“, in which, instead of subtiting it as „we know very few mummies“ our option was „very few red mummies exist“, keeping the word „exist“ at the end and avoiding confusion in the listener, who could have identified it in the original soundtrack.

As far as the reading-speed problem is concerned, in the clip on the process of mummification the solution was given by the video itself, as there were long pauses while the process described was portrayed. This gave us more time and extra frames for the subtitles.

III.2.2.b. Lip-reading

The lip-reading test was carried out with small groups of three to five students in a peaceful and well-lit classroom. The preparation of the lip-reading was based on the instructions followed by supervisors who administer versions of the Cambridge PET listening tests for the hearing impaired. It required previous training, following carefully the indications provided in the supervisor’s booklet. The reader asked the students to

read first the instructions of the test. She stood facing the students at a short distance, so that they could easily read her lips. The reader had trained the reading, marking pauses along the text with asterisks. Those pauses allowed the students to read the questions or check their answers. The intonation of the reading sounded as natural as possible. The examiner read the texts three times with a careful articulation, pausing at the asterisks. When she stopped, the students had time to read the questions again or take notes.

III.2.3. The tests

Three different test formats, multiple-choice questions, true or false, and fill-in-the-gaps, were chosen to test the students' skills with documentaries about the Orinoco, the process of mummification and the Uluru, respectively. While in the first and the second case students had to make inferences, gathering different pieces of information in order to answer the questions, in the third test, they were asked more specific information.

III.2.4. Implementation

Students of Groups A1 and B1 watched the subtitled clip on the Orinoco three times. Simultaneously, the students of Groups A2 and B2 took the same test using the method of lip-reading in a different room. Once finished, the former subgroups took the test on the process of mummification but this time with the lip-reading method and the latter with subtitles. Finally, all the students took the listening test on the Uluru and watched the video without subtitles three times.

III.3. Results and Discussion

The results in the multiple-choice format test based on the clip of the Orinoco revealed that Group A (See Figure 1) behaved unevenly in the lip-reading test, none obtaining more than 4 out of 10: 0 (40%), 2 (40%), 4 (20%); their results were much better in the test based on the subtitled clip, in which 90% obtained a score of 4 or more: 0 (10%), 4 (30%), 6 (40%) and 8 (20%).

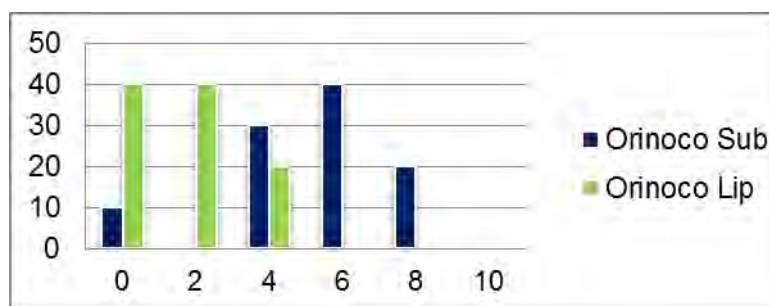


Figure 1. Results Group A. Orinoco.

In general, Group B (See Figure 2) obtained better results than A, scoring between 6 and 10 in the lip-reading test of the Orinoco: 6 (25%), 8 (50%) and 10 (25%), a fact that could be expected, as this group was more mature linguistically. Moreover, the results in the subtitled test improved those of the lip-reading test: 8 (50%) and 10 (50%), that is, the lowest score was 8; and, consequently, the scores obtained in the subtitled test were higher in both groups.

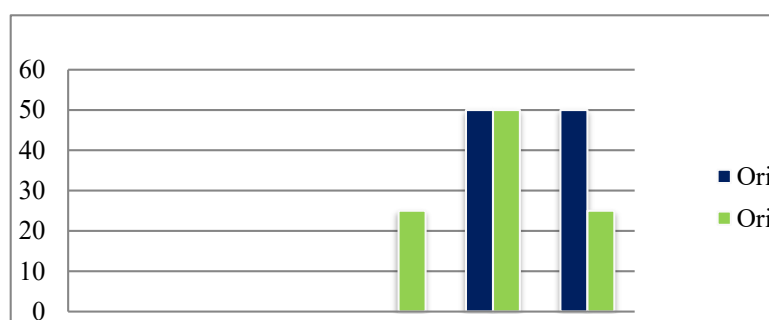


Figure 2. Results Group B. Orinoco.

In the case of the test with a True/False format based on the clip about the process of mummification, Group A (See Figure 3) distributed its scores in the lip-reading test as follows: 0 (10%), 4 (30%), 6 (20%), 8 (20%), 10 (20%), which means that 60% achieved 6 or more. The results for lip-reading were better in this text than in the Orinoco text. This could be due to the format itself, as students had to choose between two options, whereas in the previous format they had four. By contrast, the results in the test based on the subtitled clip did not show remarkable differences in Group A compared to the lip-reading test, although they were slightly better here: 2 (20%), 4 (20%), 6 (40%), 8 (10%) and 10 (10%).

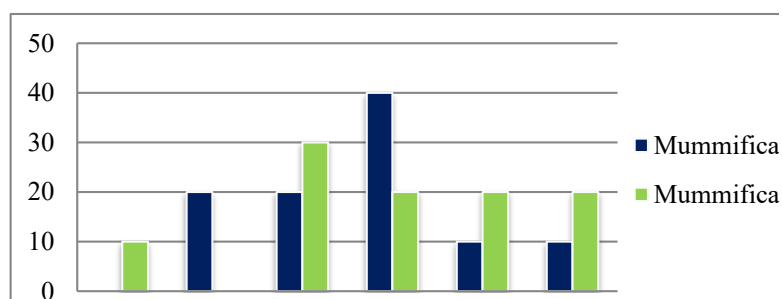


Figure 3. Results Group A. The process of mummification.

It is worth drawing attention to the distribution of the scores in Group B (See Figure 4). Even though this group of students was stronger than A, their results in the lip-reading test were even weaker than in Group A. None of the students in Group B scored more than 4: 0 (50%) and 4 (50%), all of them failing in the lip-reading test on this occasion. Nevertheless, all Group B students who took the test using the adapted subtitled version succeeded, scoring 6 or more: 6 (25%), 8 (50%) and 10 (25%). They did far better than with the lip-reading test.

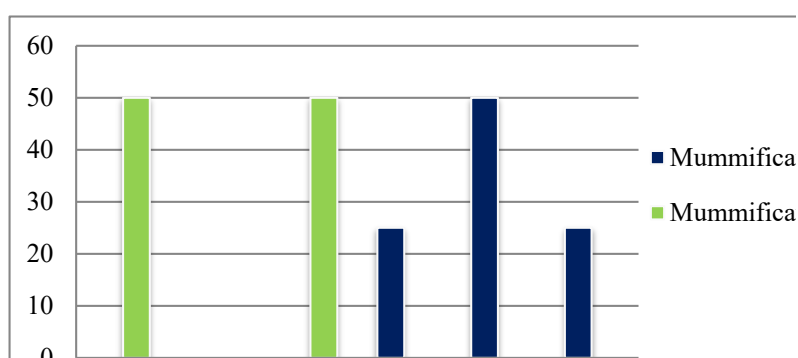


Figure 4. Results Group B. The process of mummification.

The third test was a short documentary about the Uluru rock, with no subtitles on the screen. The students had to fill in the blank with one word that was said in the video. Group A (See Figure 5) was mainly lost, as the results indicate: 75% scored 0, 15% scored 2 and 10% scored 4. Although Group B (See Figure 6) obtained better results, they were by no means good, being concentrated on 2 and 4 and amounting to 75% together: 0 (12.5%), 2 (37.5%), 4 (37.5%) and 6 (12.5%). This confirms that Group B was more mature linguistically and it may throw some light on the type of format that should not be used with the hard of hearing community. The overall results were too

low in both groups and the lack of adaptations let the hard of hearing students in a position of inferiority with respect to hearing students, as they are confronted with a double problem: the comprehension of the text and its audibility.

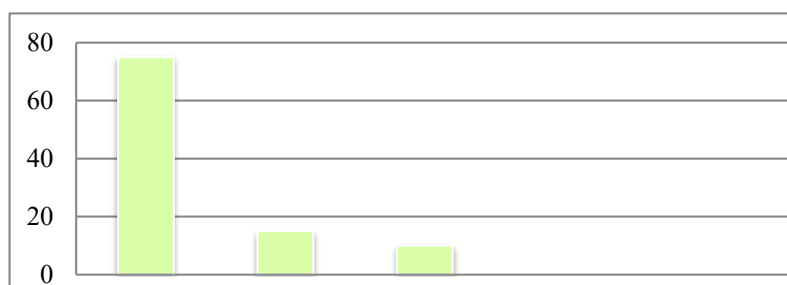


Figure 5. Results Group A. Uluru.



Figure 6. Results Group B. Uluru.

III.4. Final Questionnaire

Once the activities were done, students had to complete a final questionnaire (Table 3) concerning their opinion about the activities carried out. Its aim was to complement the information received from the objective test results. Thus, students were asked:

Table 3. Final questionnaire

1. Which of the three tests has been easier for you?
 - a) Lip-reading
 - b) Video
 - c) Subtitled video

2. Have you previously done any listening comprehension activities in a foreign language?
 - a) Yes
 - b) No

3. If your answer was YES, select which method you have previously used for the listening comprehension activity (you can mark more than one answer):
 - a) Lip-reading
 - b) Subtitled video
 - c) Audio track
4. Have you ever tested your listening skills?
 - a) Yes
 - b) No
5. Select which method you have used for the assessment of listening comprehension:
 - a) Lip-reading
 - b) Subtitled video
 - c) Audio track
6. What has been most difficult for you in each text? Number from most difficult (1) to least difficult (3) in each case:
 - Text about the Orinoco river**
 - Vocabulary
 - Grammatical structures
 - Text speed
 - Text about the mummification process**
 - Vocabulary
 - Grammatical structures
 - Text speed
 - Text about Mount Uluru**
 - Vocabulary
 - Grammatical structures
 - Text speed
7. What kinds of questions have you found most difficult? Number from most difficult (1) to least difficult (3) in each case:
 - Multiple choice
 - Fill the gaps
 - True/False

The final questionnaire brought together the opinion of the students about the test format they liked most. The preference for the subtitled video clearly stood out in both

groups. However, Group A also considered the option of lip-reading, even though in very low percentages. When asked what type of test format was the easiest, the preferences varied, depending on the group. In Group A 66.6% opted for the True/False format, whereas in Group B, more mature students, their preferences were divided. Overall, there was a common agreement that the most difficult format type was that of filling in the gaps.

Finally, as for the students' previous experience with listening skills, in the case of Group A 80% admitted they had never done any listening comprehension activity in class. An even higher percentage (90%) was also for those that had never taken a listening test and the method used with those who had done so (10%) had been the traditional test based on the listening of an audio track. In contrast with them, 62.5% students in Group B had done listening comprehension activities in class –this may have been another reason for their better results, too.

IV. CONCLUSIONS

The preliminary survey completed by 18 universities revealed that in 83.25% of them the level of a foreign language required to obtain a degree is B1. In that exam on the level of a foreign language the assessment of the listening skills is required in 88.8% of the cases. But there is no agreement as to how those listening skills are tested in the case of hard of hearing students. It seems that universities tend to adapt the test, according to the level of impairment. Our suggestion is that a listening test should be implemented for hard of hearing students, provided they have partial hearing loss and use hearing aids or have cochlear implants. Students with severe hearing loss should ask the Office for Students with Disabilities at their universities to prepare a curriculum accommodation plan. If the student succeeds in the assessment of the other skills, s/he will receive a certificate saying that „the candidate is exempt from satisfying the full range of assessment objectives in the examination“.

The main goal of our research was to check what kind of test is more adequate for these students. For that purpose, they did different listening activities using audiovisual materials that had previously been edited and adapted to the students' special needs. They also responded to different question tasks: multiple-choice, true/false, gap-filling.

The results show that in the multiple-choice format test the scores obtained in the subtitled test were higher in both groups. In the True/False format test, all Group B students who took the test using the adapted subtitled version succeeded. They did far better than with the lip-reading test. Last, the third documentary showed no subtitles on the screen and a gap-filling format test. The low results in this case may throw some light on the type of test format that should not be used with hard of hearing students.

The final questionnaire concerning the students' personal opinion about the activities carried out matched their preference for the subtitled video clip with the better results obtained in it. It also confirmed that the most difficult test format, the gap-filling format, was regarded as the least favoured one, possibly because it involves a higher cognitive effort. Therefore, we would recommend not using it in the case of hard of hearing students.

We agree with Báez Montero (2010) that the community of hard of hearing students "demands and requires the use of captions, not only as a source of information but also as a medium for overcoming the communication barriers which the members of their community have been encountering for centuries and which need to be abolished" (p.27). We firmly believe that the environment of the hard of hearing community must provide all the necessary tools to overcome the communication barriers they meet on a daily basis. Subtitles for the deaf and hard of hearing (SDH), moreover, foster their learning of oral languages, as they rely on another semiotic code, the image on the screen (Varela Romero, 2011). Our concern about the needs of these students also motivated our participation in the preparation of the *Protocolo de adaptación referido a la acreditación del nivel B1 en lengua extranjera: inglés específico para personas con discapacidad auditiva* for the University of Zaragoza.

With this goal in mind, we can make the best of the technical resources available and adapt them to their users' needs. Moreover, subtitles for the hard of hearing should be regarded not merely as "an aid to understanding the audiovisual text but also as an enjoyable system to learn oral languages" (Lorenzo, 2010, p.146). Universities should count on professionals that create these adapted subtitles or train their evaluators so that they can make the adaptations required.

Former research and the results obtained in our tests support our suggestion to promote the use of adapted subtitled video clips for hard of hearing students who need to pass the level of a foreign language required in a Spanish university. The use of audiovisual texts for that purpose would help them overcome the barrier of a foreign oral language with the aid of a visual support, something that is not provided by the traditional listening to an audio track. The fact that image is for many deaf and hard of hearing probably the main way to build meaning cannot be overlooked. Moreover, the student would face a more realistic text, more in line with the situations s/he has to deal with every day. The next step would be to make it extensive to the teaching and development of oral skills in the classroom. Taking a step further, our suggestion would be to encourage all universities to use these tools and materials for the assessment of the standards of competence required in foreign languages. This would open the way to homogeneity in the type of assessment of the skills and the number of skills assessed in the Spanish university.

Notes

ⁱ See general information about CertAcles on https://culm.xxx.es/sites/culm.xxx.es/files/users/jjc/1_que_es_un_certacles.pdf

ⁱⁱ See general information on https://culm.xxx.es/sites/culm.xxx.es/files/users/jjc/7.1_certacles_b1_descripcion_formal_del_examen.pdf

ⁱⁱⁱ “Art culo 2 . estudiantes con discapacidad. Las pruebas de evaluación deberán adaptarse a las necesidades de los estudiantes con discapacidad, procediendo los centros y los departamentos a las adaptaciones metodológicas, temporales y espaciales precisas”.

^{iv} Real Decreto 1892/2008, de 14 de noviembre, por el que se regulan las condiciones para el acceso a las enseñanzas universitarias oficiales de grado y los procedimientos de admisión a las universidades públicas españolas (BOE 24 de noviembre de 2008):

“Art culo 19. estudiantes que presentan alg n tipo de discapacidad. Estas medidas podrán consistir en la adaptación de los tiempos, la elaboración de modelos especiales de examen y la puesta a disposición del estudiante de los medios materiales y humanos, de las asistencias y apoyos y de las ayudas técnicas que precise para la realización de la prueba de acceso, as como en la garantía de accesibilidad de la información y la comunicación de los procesos y la del recinto o espacio físico donde esta se desarrolle”.

^v A word of caution: the number of hearing impaired students given by the universities that filled out the survey may not be the real facts: some students never go to the Office for Students with Disabilities or never reveal their special needs to the institution.

^{vi} See the formal description of the test at https://culm.xxx.es/sites/culm.xxx.es/files/users/jjc/7.1_certacles_b1_descripcion_formal_del_examen.pdf

^{vii} https://ouad.xxx.es/sites/ouad.xxx.es/files/users/ouad/Guia%20de%20adaptaciones_DIGITAL.pdf

^{viii} Current studies of accessibility in immersive media show that “home users are willing to accept the implementation of new features in SDH in immersive content”, which might result in the introduction of modifications in the Spanish subtitling standard UNE 153010 (Agulló & Matamala, 2019).

^{ix} One of the authors has been responsible for years for the preparation of the English test of the University of Zaragoza Entrance Examination, which assesses different competences in that level).

^x As pointed out earlier, the listening skills of regular students may be assessed with audiovisual texts, although in this case dialogues among characters are expected.

^{xi} The authors prepared the subtitles for the videos, as well as the lip-readings They were specifically produced for this study. The idea would be to have a number of subtitled videos prepared to test deaf students at the University of Zaragoza, a service which would be provided by the Office for Students with Disabilities.

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