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**Learning of a Second Language in Children  
with Hearing Impairment.**

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## **Abstract.**

Learning a Second Language is never easy and even less if you have Hearing Impairment. Although Deficiency can be mitigated with Technical Aids, it is very important to keep in mind what kind of help is being used because not all the Hearing Aids have the same effect on the reception of the language and its coding. The school has a very important role in how the First and Second Languages are going to be developed and are in charge of helping the Deaf child to learn the Languages efficiently and to carry out strategies of inclusion in the classroom so that the learning becomes more successful. Sign Language is also an important component in acquiring a Language because, in the absence of Oral Language, it can help in the development of Symbolic Representation, a very important step in the acquisition of other languages, whether Signs or Oral.

## **Key Words.**

Sign Language, Deafness, Deficiency, Auditory System, Language, Technical Aid, Second Language Learning.

## **Resumen.**

El aprendizaje de una Segunda Lengua nunca es fácil y menos aún si se tiene una Deficiencia Auditiva. Aunque la Deficiencia puede ser mitigada con Ayudas Auditivas es muy importante que se tenga en cuenta qué tipo de ayuda se está usando puesto que no todas tienen el mismo efecto en la recepción de la lengua y su codificación. La escuela tiene un papel muy importante en cómo se van a desarrollar la Primera y la Segunda Lengua y son los encargados de ayudar al niño sordo a aprenderlas de manera eficiente y de llevar a cabo estrategias de inclusión en el aula para que el aprendizaje se más fructífero. El Lenguaje de Signos también es un componente importante en la adquisición de una lengua ya que a falta de lenguaje oral puede ayudar en el desarrollo de la Representación Simbólica, un paso muy importante para la adquisición de otras lenguas, ya sean de Signos u Orales.

## **Palabras Clave.**

Lengua de Signos, Sordera, Deficiencia, Sistema Auditivo, Idiomas, Ayudas Auditivas, Aprendizaje de una Segunda Lengua.

## **1. Introduction**

Communication is an important skill that humans must develop to live in society, to understand and to be understood. “To be considered a competent interpersonal communicator, a speaker must be able to apply a range of pragmatic skills effectively to ensure smooth face-to-face communication in conversation” (Jeanes, Nienhuys & Rickards, 2000, p. 237). Continuing with Jeanes et al. (2000) hearing children acquire this skills in their first 8 years of life, for Hearing Impaired children much less is known about the develop of the pragmatic skills. “Deaf children have fewer opportunities for naturalistic, meaningful conversational interaction (Clark, 1989; Gallaway & Woll, 1994; Ling, 1989) and, as a result, are less likely to acquire the full range of conversational pragmatic skills” (Jeanes et al., 2000, p. 237). According to this, learn a Language with a Hearing Impairment would be much more difficult. So, what would happen if a Hearing Impaired person tries to learn a Second Language? Is it possible? What difficulties could face the person? All these questions and a few more are the ones we want to answer with this investigation work. For that matter, we have done a bibliographic review and analysis and we could interview two professionals that know about the topic and are close to it.

## **2. Objectives**

The main objective of this research is:

- To know if children with Hearing Impairment are able to learn a Second Language, being that language a Foreign Language, English in our case.

A part of this objective and the ones that we use as focus our investigation (section 6.1, p. 23) we want to know more about the Deaf community, the types of Hearing Impairment, the problems that a Hearing Impaired might face in relation to Language acquisition, the Hearing Aids available to improve the life of the ones who have Hearing Deficiency and to know enough about the auditory system to understand the Deafness levels.

### **3. Topic Justification.**

Knowledge of a Second Language is, nowadays almost essential to find a job, but what happen if you have a deficiency that disables you to learn that Second Language? Or, what happens if that deficiency allows knowing a Second Language but is not a majority language like it could be Sign Language? That is what I want to know with this investigation work.

Deafness is a deficiency that is close to me, not because I have it but because of my father and his siblings (my uncles and aunts). Four of six siblings, including my dad, are Deaf since they were born. Some of them are able to talk and use Technical Aids that allows them to live their day to day easier but some of them speak very poorly and they use Sign Language as their first language, therefore, the communication with them it is more difficult. They were born in a time when there were not advances like Cochlear Implants and the Technical Aids were much more rudimentary so the ones who speak have some language mistakes. They were not able to learn a Foreign Language and most of them left the school early because there were not such things as Special Educational Needs.

With all that background I wonder, how much have changed the Educational field in relation to the Hearing Impairment deficiency and the Learning of Second Language.

Also, the topic is heavily correlated with the degree's competences in a transversal way but directly related to the ones we mention next:

- General competences:

- 3.b. Be able to use effective information search and procedures, both on primary and secondary information sources, including the use of computer resources for online searches.
- 5.d. Capability to initiate oneself in research activities.
- 6.d. Knowledge of measures that guarantee and make effective the right to equal opportunities for persons with disabilities.

- Specific competences:
  - a.3. Know the basics of the Early Attention.
  - a.24. Ability to know how to identify disorders in sleep, eating, psychomotor development, attention and auditory and visual perception.
  - English mention:
    - Be able to express orally and writing in English (level C1).

#### **4. Methodology.**

We started this investigation work by doing a search for bibliography about the topic. We used scientific databases like *Scopus*, *Scielo*, *Dialnet*, *Web of Science*, and we also used the UVa Library to find books that suit with the matter. When we got the documentation we need, we started a bibliographic analysis that allowed us to know more about Deafness and the Deaf Community. After the analysis, we decided to do a field investigation in order to increase knowledge and to answer some questions that could not be answered with the existing bibliography.

There are different approaches in the realisation of an investigation: a quantitative approach and a qualitative approach, the one we used for the Field Investigation.

According to Hernández, Fernández & Baptista (1998, p. 5) “uses data recollection to prove a hypothesis, with a base in numerical measurement and statistical analysis to establish behaviour patterns and prove theories”.

The second approach and the one we are going to use is the qualitative approach.

“Qualitative research claims to describe life-worlds ‘from the inside out’, from the point of view of the people who participate. By so doing it seeks to contribute to a better understanding of social realities and to draw attention to processes, meaning patterns and structural features” (Flick, von Kardoff & Steinke, 2004, p. 3).

In Hernández et al. (1998, p. 8), this approach “uses data recollection without numerical measurement to find out research questions in the interpretation process”, in other words, how Taylor and Bogdan (1987) say, it is about how to collect descriptive data, the words and conducts of the investigation subject. “Descriptive observation, interview and other qualitative methods are as old as written history” (Wax, 1971)<sup>1</sup>. The qualitative interview is the tool we are going to use for this investigation.

“By qualitative interview we understand repeated face-to-face encounters between the investigator and the informants, meetings aimed at understanding the perspectives that informers have about their lives, experiences or situations, as they put it in their own words. In-depth interviews follow the pattern of a peer-to-peer conversation, not a formal exchange of questions and answers” (Taylor & Bogdan, 1987, p. 101).

Finally, we were able to get some conclusion and reflections about the matter thanks to all the information obtained.

## **5. Theoretical Framework.**

### 5.1. Clarifying Some Concepts.

To begin with this theoretical framework it is necessary to make some concepts clear in order to understand what we are talking about in each moment. We obtain the definitions of Deficiency/Impairment, Disability and Handicap from Lorenzo & Murías (2002):

- Deficiency/Impairment. It is the loss or abnormality of a structure or function that can be either psychological, anatomic or physiological and which can be innate or acquired in a temporal or permanent way. The Spanish Educational law from 1990 called L.O.G.S.E.<sup>2</sup> divide the deficiencies into three types: physical, sensorial and psychic.

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<sup>1</sup> Cited in (Taylor & Bogdan, 1987, p. 17)

<sup>2</sup> We use L.O.G.S.E. instead L.O.E. or L.O.M.C.E. because is the only law that made a differentiation in the concepts we want to explain.

- **Disability.** It is the impossibility or difficulty, due to a deficiency, in the capacity to realise a task or activity in a way that is considered normal for the human being taking into account some parameters. The disability can manifest itself in a physical, sensorial or psychical way.
- **Handicap.** It is the situation of disadvantage created as a consequence of a disability or a deficiency that puts a limit on the normal development of the person in a human group, community or in a society. This situation does not allow the person to act like a person without a deficiency or a disability would do. It is very important to remark the social role of this concept because in most cases, it is the society the one who creates the handicap in a person as we can see in the next example: a blind person (deficiency) has been living in the same street for fifteen years. That person knows how to go to the supermarket or to the places that is used to go and cross the roads thanks to the sound produced by the pedestrian traffic lights. By doing so, the person is living a “normal” life, but, one day all the traffic lights are off and there is no sound to help the blind person to cross the road. If there is no sound for an unlimited time, the society is making that person have a handicap because no one is fixing the problem. That is how a deficiency turns into a handicap.

It is also imperative to say that a person can have a deficiency or impairment, but that deficiency can turn into a disability or a handicap or not. If that person were able to manage its abilities enough to supply the deficiency, it would never be a disability or a handicap. Therefore we are going to talk about deficiency or impairment and not the two other terms.

## 5.2. Hearing Impairments.

As Fernández (2002) says, Deafness or Hearing Impairments are classified as a sensorial deficiency (along with the Visual Deficiencies or Blindness). In Murtagh (2007, p. 449) we find the definition he had collected from Ludman (1993): “Deafness is defined as impairment of hearing, regardless of its severity”. The allusion to the regardless severity it is important because this allows including in the definition a bigger amount of Deafness degrees.



Those Deafness degrees are specified by Fagan (2006) and Tierney et al. (2006), both mentioned in Murtagh (2007, p. 449):

- Mild – loss of 20-40 dB (20 dB is soft-spoken voice).
- Moderate – loss of 40-70 dB (40 dB is normal spoken voice).
- Severe – loss of 70-90 dB (shout).
- Profound – loss of over 90 dB.

It is also important to determinate the place where the impairment is located, therefore we can separate the auditory structure in three parts and we obtain the information related to it in Auditory system (n.d):

1. Outer Ear: Composed by the pinna, auricle and the external auditory canal.
2. Middle Ear: This part has a lot of components; the first of them the tympanic membrane. Next to it, we find a series of delicate bones: the malleus (hammer), incus (anvil) and stapes (stirrup).
3. Inner Ear: The main parts of the inner ear are the cochlea and the auditory nerve.

Considering the three parts we can consider the causes of Deafness in two:

1. Conduction Hearing Loss: It is linked to the outer ear and “is caused by an abnormality in the pathway conducting sound waves from the outer ear to the inner ear, as far as the footplate of the stapes.” (Murtagh, 2007, p. 449) Some of the causes, Murtagh (2007) gives for this type of Deafness, are: cerumen (wax), osteomata, otitis, otosclerosis, and many other factors.
2. Sensorineural Hearing Loss (SNHL): It is linked to the middle and inner ear and “is a defect central to the oval window involving the cochlear (sensor), cochlear nerve (neural) or, more rarely, central neural pathways.” (Murtagh, 2007, p. 449). This type of Hearing Loss is much more difficult to fix and some of the causes that produce it are: a trauma in the zone, a viral infection and some diseases like syphilis or herpes zoster, causes related to the nerves, etc.

For C.P.I.R. (Center for Parent Information and Resources, 2017) there are, in addition to this two causes of Deafness, two more causes:

3. A Mixed Hearing Loss refers to a combination of Conductive and Sensorineural Loss and means that a problem occurs in both the outer or middle and the inner ear.
4. A Central Hearing Loss results from damage or impairment to the nerves or nuclei of the central nervous system, either in the pathways to the brain or in the brain itself.

We cannot finish this section without mentioning the origin that Deafness, as many other diseases, can have. That origin, according to the C.P.I.R (2017), could be acquired or congenital and we are going to see what each of this concepts means.

- Acquired: This means that the loss occurred after birth, due to illness or injury or one of the causes mentioned before. “Acquired Deafness accounts for approximately half of all childhood cases” (Murtagh, 2007, p. 453). Acquired Deafness is not always permanent; sometimes it can be temporary. That temporary Acquired Deafness can be produced by a wax excess, otitis, water in the external auditory canal or other factors that with a good treatment allow the person to hear again in a short or long (it depends on the cause of the Acquired Deafness) lapse of time.
- Congenital: Which means that the hearing loss or Deafness was present at birth. Usually when Congenital Deafness appears is due to a hereditary disease or defect or because something happened to the mother when she was pregnant which ended up affecting the fetus. For Murtagh (2007) Congenital Deafness is an important consideration in children. “Deafness may be associated with Down syndrome and Waardenburg syndrome. Waardenburg syndrome, which is dominantly inherited” (Murtagh, 2007, p. 453).

### 5.2.1. Language.

Gonzalez-Perez (2002), expresses how the language is important. The importance is due to the fact that language is the instrument that communicates and symbolises experiences. Children learn sounds and images associating them to its experience and use them as a way to express it. This is not an easy process and can be affected if the functioning of the sensory system is disturbed like it could be in the case of Hearing Impairment.

As Fernández (2002) says, Hearing Impairments have critical repercussions in the speaking area and the acquisition of a language. This is due to the fact that acquisition of language follows a concrete path. For us, that path would be the stabilised by Krashen and Terrell (1983)<sup>3</sup> what they understand by the Natural Approach methodology and The Input Hypothesis that is inside of it. “The Input Hypothesis claims to explain the relationship between what the learner is to of a language (the input) and language acquisition” (Richards & Rodgers, 2001, p. 182). Even though the Natural Approach is used to explain the acquisition of a Second or a Foreign Language, it can be used to explain the acquisition of the First Language because in its basis says that the acquisition of the Second Language should be like the First: “In the Natural Approach there is an emphasis on exposure, or input, rather than practice” (Richards & Rodgers, 2001, p. 179). This means that we learn our Native Tongue or First Language by being exposed to it, receiving a constant input. After that input is received the person is ready to start the oral production of the language. It seems obvious that we are always receiving different types of inputs; that is the reason why we are always improving our language skills.

So, bringing back to Fernández (2002, p. 129) it is important to consider some parameters for the language learning if there is Hearing Impairment:

- Age of beginning of the hearing loss. If the person presents Hearing Impairment before the language acquisition it is called Prelocution Hearing Loss. The further is the Hearing Loss; less dramatic would be its effects in the language.

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<sup>3</sup> Cited in Richards & Rodgers (2001)

- Type of communication input. In an investigation, which was done by Mores (1982)<sup>4</sup>, it was demonstrated that the early use of Sign Language increases the efficiency in the no Hearing child.
- The presence or not of multiple deficiencies. Children that have Hearing Impairment and other deficiencies have bigger difficulties in acquiring the language and the oral skills than children who only have Hearing Impairment.

Considering these parameters and Fernández (2002, p. 135) words, language is significantly deficient in children with Hearing Impairment in comparison with a Hearing peer. “Oral comprehension it is correlated negatively with the Hearing Loss increase.” What Fernández (2002) is trying to say with this affirmation is that the Hearing Loss produces negative effects in the language area and what is related to comprehension. This is due to the fact that if you are no able to hear something, you cannot understand it as good as you could do it if you hear properly.

“The process of communication involves mutual interactions where people serving as talkers and listeners share ideas, thoughts, experiences, and feelings. The efficiency of this process is dependent on each of the participants. In order to enable fluent conversation, each person is responsible for being sensitive to the needs of the other (Palmer, 1988; Wiseman & Barker, 1976)”.<sup>5</sup>

Therefore, in Most (2002) words, communication breakdowns or failures occurs if the message is not perceived or properly. That is why, with Cassie & Wilson (1995) and Tye-Murray, (1994), cited in Most (2002, p.113) say that Hearing Impairment individuals, frequently experience communication breakdowns as a result of their hearing loss because they have difficulties in perceiving the spoken language.

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<sup>4</sup> Cited in Fernández (2002, p. 130)

<sup>5</sup> Cited in Most (2002, p. 112)

That reception problem is usually fixed with a strategy called Repair. “The ability to participate in conversational repair sequences is a pragmatic ability and constitutes an integral part of the language acquisition process (Gallagher, 1977; Garvey, 1975). (...) Young children develop the capacity to incorporate repair strategies as they experience communication breakdowns” (Most, 2002, p. 112). Most of the times, those repair strategies are related to asking questions, show a no understanding expression, etc. there is where the listener is needing a clarification. “Requests for clarification necessarily involve both the listener and the speaker and indicate that the listener has determined that there is a communication problem between speaker and listener.”(Jeanes et al. 2000, p. 238). Both, listener and speaker, should have the skills to interpret what the other is trying to say and considering this we, as teachers, should be careful because as Most (2002) says:

“The regular education system often incorporates cooperative learning in which students are required to work together. The success of cooperative learning processes depends to a large extent on the efficiency of the communication skills used by the group members. Many students with Hearing Impairments confront difficulties in such programs due to their speech, language, and hearing problems. In order to participate actively in the classroom, students with Hearing Impairments must learn to overcome communication failures. As listeners, they need to learn to use appropriate clarification requests in order to receive the correct information from talkers in the class. As speakers, they need to learn to use repair strategies in order to improve intelligibility” (Most, 2002, p.113)

We should help students in the creation of the repair strategies, especially in Preschool Education, because these students do not have the necessary skills and cognitive development to use them. If we were not paying attention to them they would not acquire the oral skills (comprehension and expression).

#### 5.2.1.1. Communication Options.

As Fernández (2002), children with mild or moderate Hearing Impairment wearing a Technical Aid (we will explain this concept looking closer later), would not have communicative problems but children with severe or profound Hearing Impairment, instead, would need other special help apart from the Technical Aid.

All the people that surround the children must be involved in that special help. According to Fernández (2002), we can classify the help in two methodologies, the one that it is referred to the oral communication and the one that refers to the gestural communication:

- Oral Communication:
  - Tonal-Verb. According to the Cervantes dictionary, is a model of phonetic correction that has as general objective the unconscious acquisition of the phonic system of a language.
  - Lip Reading. It is a way of understanding language that resides in how each word is articulated in the lips.
- Gestural Communication:
  - Bimodal Communication. As Velasco & Pérez (2009) explain, this communication implies the simultaneous use of the oral expression and Sign Language, the simultaneity allows the Deaf children to visualise the spoken language. Although the use of the Sign Language, the syntactic structure is determined by the spoken language.
  - Sign Language. In Fernández (2002) words, this language has independence from the spoken language; this means that it has its own syntactical structure and organisation.
  - Manual Codification or Expressive Spelling. The main object is a visual representation of the alphabet letters. The message producer spells each letter of the words or number necessary to understand the message.

- Total Communication: it is a communication method that integrates communicative ways appropriated (oral, gestural, etc.) with the aim of secure and effective communication.

### 5.2.2. Educational Implications.

Hearing Impairment can become a burden if it is not taken into account in a proper way. Therefore, the C.P.I.R. (2017) explains how to treat a Hearing Impairment child in the educational field.

“Children who have Hearing Impairment generally require some form of special education services in order to receive an adequate education (...) They will find it much more difficult than children who have normal hearing to learn vocabulary, grammar, word order, idiomatic expressions, and other aspects of verbal communication.” C.P.I.R. (2017, p. 4)

This is a result of what we said before, a Deaf child cannot get the same amount of input as Hearing child and in consequence, difficulties appear in the language acquisition.

“For children who are Deaf or have severe hearing losses, early, consistent, and conscious use of visible communication modes (such as Sign Language, fingerspelling, and Cued Speech) and/or amplification and aural/oral training can help reduce this language delay.” C.P.I.R. (2017, p. 4)

By doing visible communication modes or using Technical Aids, which we will see in the next section, children receive a bigger amount of input and get them in contact with their surrounding allowing them to communicate and somehow, to develop language.

We cannot end this section without stating the importance of teachers and audiologist working together. Also, it is crucial to say that “since the great majority of Deaf children (over 90%) are born to hearing parents, programs should provide instruction for parents on implications of Deafness within the family.” C.P.I.R. (2017, p. 4)

### 5.3. Technical Aids.

When there is Hearing Impairment, different ways of communication can be used to help the person to communicate with Hearing people.

“People with Hearing Impairment use oral or manual means of communication or a combination of the two. Oral communication includes speech, lip reading, and the use of residual hearing. Manual communication involves signs and fingerspelling. Total Communication, as a method of instruction, is a combination of the oral method plus signing and fingerspelling” C.P.I.R. (2017, p. 4).

But sometimes, these methods are not enough to fully fill the communication necessities that might appear in daily events, like attend a class or go to the cinema, etc. In those cases is where an external help becomes necessary to mitigate the Hearing Impairment and avoiding it to become a disability. We obtain the information of that external help and its characteristics from Velasco & Pérez (2009). These authors have mentioned in their work what is known as Technical Aids and we find the next devices:

- Hearing Aids: It is a personal and individual device that amplifies sounds. Those sounds are turned from sound waves to electric signals that travel through the amplifier where the signal gets increased and then is turned again into an acoustic signal and enter in the ear through the earplug. There are two types of Hearing Aids (H.A.):
  - Behind-the-ear H.A.: This H.A. is the most recommended for children because it is comfortable and because has a mode called FM though we will get into it later.
  - Earphones: This H.A. goes inside the ear cavity and is designed according to the Deaf person ear and therefore they are unique.
- Cochlear Implant: They are indicated for cases where the Hearing Aids do not get good results or do not work like it happens in persons with Sensorineural Hearing Loss but there are different results depending on factors like the age of implantation, the age where the hearing loss started, etc.



Deaf people with a Hearing Aid or a Cochlear Implant can also have an additional help to improve the properties of their devices. That help comes from:

- FM System: This system allows having a sound signal of quality. In the educative ground, the teacher has a microphone and the students H.A tune into the teacher's frequency, this permit to understand the teacher without the interferences that the environment sound can produce.
- Magnetic Loop: It develops a similar work that the FM System but reduces much more the environment sound interferences.

Although these are the most known artefacts that Deaf people use to reduce their Deafness, there are other methods that can help them to be in touch with society. Those other methods are mostly human resources. The Sign Language interpreter, who facilitates the communication in between hearing and not hearing people, plays that human resource role. In a classroom could be useful but it requires the recruitment of a specialist and sometimes, schools do not have budget enough to do it. Though there are other types of helps like the subtitling, in the educative field this is unthinkable because it would be impossible (at least nowadays) to have a screen that writes simultaneously what the teacher says, and it becomes even more difficult if there are children speaking at the same time.

#### 5.4. Children with Special Educational Needs (C.S.E.N.)

The presence of a person that has a Hearing Impairment in a school or in a community, can lead that person to some special necessities that are essential to living in the same conditions as the rest of the population in order to avoid the creation of a handicap in the person.

If those necessities are linked to the scholar years or to the education ground, they receive the name of Special Educational Needs (C.S.E.N.). This term was used in Spain for the first time in the 1990 Educational Law (L.O.G.S.E) and followed by the L.O.E. Educational Law from 2006 where it is stabilised in its Tittle II, Educational Equity, a definition for C.S.E.N.

“Students with special educational needs are those who require, for a period of schooling or throughout the school, certain specific educational supports and services derived from disability or serious behavioral disorders.” (L.O.E., 2006, p. 17179)<sup>6</sup>. The question that comes up to our mind is, how do we know the necessities of the students?. The answer is easy, we do a Psychopedagogical Evaluation. The evaluation allows us to get information that will be analysed and taken into account to identify the necessities and make decisions. Of course, this is not the only evaluation that can be done but we will see the other in next sections.

After the Psychopedagogical Evaluation, if the student presents some deficiencies it is said that the student has Special Educational Needs. Using Lorenzo & Murias (2002, p. 13) words, a student that has Special Educational Needs is the one that precise a specific help that is also different to their peers because it is not able to follow the same curriculum or has a different knowledge rhythm acquisition. That specific help can be done by changing the curriculum or offering the student a special attention (classroom, social context, etc.).

Accordingly to this help, every educational institution can present a different approach to the treatment of those C.S.E.N students. Those approaches according to Lorenzo & Murias (2002) are: inclusion, normalization, integration and sectioning.

- Inclusion. Is an educative approach that assumes the differences in the student’s body, which means that each student has its own and particular necessities.

“Inclusion has to be seen as a never-ending search to find better ways of responding to diversity. It is about learning how to live with difference and learning how to learn from difference (...) is concerned with the identification and removal of barriers (...) is about the presence, participation and achievement of all students (...). Involves a particular emphasis on those groups of learners who may be at risk of marginalisation, exclusion or underachievement.” This indicates the moral responsibility to

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<sup>6</sup> We use the definition from the L.O.E. because in the L.O.M.C.E. there is not a derogative law it is a law that amends the 2006 law, therefore, the definition of the term would be the same.

ensure that those groups that are statistically most at risk are carefully monitored, and that, where necessary, steps are taken to ensure their presence, participation and achievement in the education system” (Ainscow, 2005, p. 118-119).

Despite the fact that a child with Hearing Impairment is in an institution that uses inclusion as an educative approach, there are testimonies of students who relate how they felt in their school in what is linked to peers relationships. This should be taken into account in order to avoid non-inclusive situations.

“Young people reflecting on their inclusive education frequently report isolation and teachers of the Deaf observe only limited interactions between their students who are Deaf/HH and their hearing peers” (Komesaroff et al., 2014; Paatsch and Toe, 2014; Punch and Hyde, 2010)<sup>7</sup>.

- Normalization. It refers to the treatment that is given to the person in order to promote and enhance their adaptation to the environment in which it is developed. It seeks the inclusion of the person. In the school, it implies to dispose and to enable infrastructures and resources to offer the best conditions to the person in need.

“Normalization/SRV, therefore, calls for the integration of devalued individuals into society so they live in normal housing, have normal jobs and a normal education and engage in a positive way with socially valued activities, thus giving people a positive social role, enhancing their personal competencies and bolstering their social image” (Wolfensberger, 1983)<sup>8</sup>.

- Integration. It demands the recognition of every citizen education as a duty. Integration goes thru different moments and moving forward from a partial integration to the complete integration that has the aim to optimise the social welfare and the full development of the C.S.E.N.

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<sup>7</sup> Cited in Church, Paatsch & Toe (2017, p. 50)

<sup>8</sup> Cited in Yates, Dyson & Hiles (2008, p. 248)

“In the 1800s, integration was also linked with the role schools play in promoting social unity” (Ciccorico 1970, 60)<sup>9</sup>.

- **Sectioning.** This refers to the services that are necessary to offer a personalised attention that takes into account the Special Necessities of the students in its natural environment, arming them with the support and the services they need to enable their development.

“Sectioning, emphasise the fact that attention to the person that has Special Necessities, has to be given in the Socio-geographical area where the person lives” (López, Bakker, López & Zanier, 2005, p. 270).

“Sectioning allows to enhance the development of the students, from their autonomy and self-concept, taking into account their environment and their context and by using methodologies that grant individualised teaching-learning process but also taking advantage of situations that permit teamwork” (Álvarez, Bernal, & Pérez, (n.d), p. 2).

### 5.5. Psychological Evaluation.

Fernández-Ballesteros (2011) explains how psychology’s aim is to study human behaviour; this involves the study of complex structures and conditions like consciousness, intelligence, mind, etc. Furthermore, the psychological evaluation must be complemented with findings and concepts from the different knowledge areas of psychology. That evaluation is directed to the scientific study of the individual subject and has the aim of verifying if the general principles established by psychology are present in the individual subject of study. This evaluation has to be done in children with Hearing Impairments to establish how those Impairments affect the intelligence or personality of the subject and other parameters that might be affected by the Hearing Loss. This evaluation along with the ones we are going to see in the next section (scholar and social evaluation) should be done in the school to know and ensure a proper adaptation to the students’ necessities.

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<sup>9</sup> Cited in Klein (2005, p. 8)

### 5.5.1. Intelligence and Hearing Impairments.

If we want to do a full psychological evaluation Fernández (2002) says that we should also do intelligence and personality tests, and by doing so, we will be able to exclude any problem related to Deafness. This author also adds that:

“It is difficult to determinate the intelligence of students that have a Hearing Impairment because classical psychological tests assume that the child has been exposed to a normal context of language. In addition, traditional psychological tests request of a verbal answer or use verbal instructions so this does not allow to have a valid measure of the Hearing Impairment children” (Fernández, 2002, p. 131).

According to Vernon (2005, p. 225), “there have been approximately 50 comparative studies of the intelligence of those who are Deaf or hard-of- hearing published since the advent of intelligence testing in the early 1900s”. But, why is the data of these studies important? Vernon (2005) answer that question, in his opinion, it is important because it is common to think that Hearing Impairment is associated with a lack of intelligence. What this author deduced after researching the studies was “that there is no relationship between the degree of hearing loss and IQ or age of onset of Deafness and IQ. Exceptions were noted in the case of certain etiologies, such as meningitis (Vernon, 1967a)” (Vernon, 2005, p. 229). Therefore, we can conclude that if there is a lack of intelligence in a Deaf person it is not due to the Deafness itself, is usually due to another condition that has affected to the intelligence. This is not a universal fact but when realising an intelligence test we must be aware of the origin of the Deafness and keep in mind that the test cannot be sustained in verbal questions and answers because of the Hearing Impairment of the subject.

### 5.6. Scholar Evaluation.

Fernández (2002) says that Scholar Evaluation is necessary to determine the skills of a subject and by extension to organise the subject learning accordingly to its capacity, thus, better results will be obtained. This author also expresses that first of all we should check if the subject of study is able to achieve the goals purposed for its classmates and if it is able to comprehend the concepts of its course. By doing so we can get to know the subject's weakness and strengths and the strategies used to learn. We also should consider the context that surrounds the student. In addition, this evaluation allows us to know if the student has a problem that might be causing delays in the student learning. Some of those problems could be a lack of sight or a Hearing Loss, A.D.H.D. (Attention Deficit Hyperactivity Disorder).

In what we are concerned, Hearing Impairments, Fernández (2002) says that in students that have a Hearing problem, the academic performance might differ and there are delays when they are compared with their classmates. Students with mild or moderate Hearing Impairment who also have Deaf parents and the students who have an early attention have better results than the ones that do not comply the mentioned characteristics.

### 5.7. Social Evaluation.

We cannot evaluate the aspects mentioned before without taking into account the context in which the student is growing. According to Fernández (2002), this context includes society, family, the school and all the places and people that somehow have interaction with the student. Undoubtedly the family is the first social context that children face that is why we should things like how is the relation in between the parents and the child, how everyone feels about the Hearing Impairment, analyse the expectations in relation to the child and its future. "It is also important to analyse the communication options that the family uses at home" (Fernández, 2002, p. 138)

## 5.8. Second Language Learning.

Returning to the communication options that we talked about in the previous section and taking into account what we know thanks to section 3.2.1.1. We are going to dive in the Second Language Learning (S.L.L.) from now on, and what this learning means for a person with a Hearing Impairment. “The learning and teaching of Foreign Languages have been talked about for at least two thousand years, and the actual activity has probably been carried on for many millions more” (Dunkel, 1948, p. 2). Instead of talking about the Foreign Language like Dunkel (1948) does, we are going to talk about Second Language because if we just said Foreign Language, we could not include Sign Language and it is important to include it.

When we talk about S.L.L. it is impossible not to mention the term bilingualism. Bilingualism is a difficult term to define, Baker (1997, p. 29) suggests some questions that might help us to define the concept: “Is a person bilingual if he has fluency in a language even though he has less fluency in its native language? Is someone bilingual if rarely, if ever, uses one of his languages?” From our point of view, a person is bilingual when is able to communicate in a fluid way in two or more languages, without taking into account if the person knows the grammatical rules, it just has to be able to understand and be understood. Despite the definition it has to be clarify that we believe that there are different levels of bilingualism development, in other words, a person can be more or less expert in a language. Though to know what bilingualism term means is not the aim of this work it is important to be familiarised with it.

According to Grosjean (2010b, p. 12) “Among other factors leading to bilingualism, three come to mind: bilingual families, people’s professions, and Deafness.” But, why does Grosjean say that about Deafness? In his own words, “Deaf often leads to bilingualism in the language of the majority (English in the United States, for example) and the Sign Language of the Deaf community that exists in the country or region (American Sign Language in the United States, for instance)” (Grosjean, 2010b, p. 13).

In the Spanish case, the Spanish Language would be one of the languages and Spanish Sign Language would be the other one.

“The bilingualism present in the Deaf community is a form of minority language bilingualism in which the members of the community acquire and use both the minority language (Sign Language) and the majority language in its written form and sometimes in its spoken or even signed form” (Grosjean, 2010a, p. 134).

Continuing with this argument, Grosjean (2010a) says that Sign Language bilingualism can involve different Sign Languages but is not very common in the Deaf community and the author add that there are fewer studies on the subject. Grosjean (2010b, p. 4) in its writings defines bilinguals as “those who use two or more languages (or dialects) in their everyday life”. “Given this definition, most Deaf people who sign and who use the majority language (even if only in its written form) in their everyday lives are indeed bilingual” (Grosjean, 2010a, p. 134). While the definition considers Deaf people who speak the Oral Language and Sign Language, “they are still seen by many as monolingual in the majority language whereas in fact many are bilingual in that language and in sign” (Grosjean, 2010a, p. 136). As Morales-López (2008, p. 224) says related to this matter, “Deaf groups throughout Spain have been increasingly aware that their traditional means of communication really is a language, and they are beginning to organise themselves politically in order to achieve its legal status.”

In the educative system, as Morales-López (2008) says, the inclusion of Sign Language is an issue that affects only to the Deaf community, and sooner or later it would be necessary to consider the legal status of a new language.

“In Spain, sign bilingual education was officially introduced in the course of the 1990's in several schools in Barcelona and Madrid (including nursery, primary, and secondary schools). Sign bilingual education has not been officially implemented in other Spanish towns” (Plaza, Gras & Morales-López, 2008).



Therefore, the inclusion of the Sign Language should be done with celerity, authors like Grosjean (2010a) agree to this affirmation and adds: “Deaf children should have complete access to language as early as possible” (p.140). He also says that Sign Language must be, at least, one of the first languages, if not the first, acquired by children who have Hearing Impairment.

“Sign Language will allow early and full communication between Deaf children and their caretakers and this at an optimal rate of communication. Sign Language will also facilitate the acquisition of the spoken language, be it in its spoken or written modality. It is well known that a first language that has been acquired normally, be it spoken or signed, will greatly enhance the acquisition and use of a Second Language” (Grosjean, 2010a, p. 143).

Considering all of this, we wonder what happens with the learning of a language, which is a Foreign Language for the student. An example of this situation could appear in a Spanish school where the studied Foreign Language studied is the English Language. So, in that case, how would be the learning and teaching of the Foreign Language in a student that has Hearing Impairment? The research we have done does not show as an answer to this question, in fact, we were not able to find any investigation about it.

## **6. Field Investigation.**

### 6.1. Introduction.

With the theoretical framework in consideration, we establish the general objectives of our investigation. In order to achieve these objectives, we are going to use the qualitative interview that will allow us to get the information we need. Therefore, the main objectives of this investigation are:

- To know if children with Hearing Impairment are able to learn a Second Language, being that Language a Foreign Language, English in our case.
- To know what type of helps a Hearing Impaired receives in the Second Language Learning.
- To be aware of the difficulties that Hearing Impaired children might face in their Second Language Learning.
- To have knowledge of how to teach a Second Language to Hearing Impaired children.
- To be familiar with what elements should be taught in the Second Language Learning.

For the interviews, we got two people and we asked them politely if they would agree to do it. Once they agreed we placed the meet up in a neutral place to avoid as much as possible to be in a subjective environment and to create an ambience comfortable enough to talk openly. Before start recording the interview they were explained which was the topic of the investigation and they were asked if they agreed to be recorded in order to be able to transcript the interview later (Annex 2 and 3), both agreed and we begin to record.

The first interview was done to a Sign Language Interpreter, specialist in Hearing Impairments and who has been working in the Deaf Community for several years. This subject helped in the creation of the Deaf People Association in Soria that disappeared years ago because of lack of funds. This Sign Language Interpreter is going to be called from now on Subject A.

The second interview was done to an English Teacher who is native of the English language and had a student in Preschool Education who was Hearing Impaired but he was not diagnosed until he was in third grade of Primary Education and whom we are going to call Subject B.

We did a basic model of how the interview was going to be; this model can be seen in the section 8.1. which is the annex number one but we adapted these questions according to the interviewee because they had different knowledge of the topic concerned, Deafness. It was also changed because a qualitative interview is not as closed as quantitative one and sometimes the interviewed answered some of the questions before we even asked about them.

As analysis methodology, we are going to use also a qualitative methodology, starting by establishing the analysis categories. Those categories have been created with the questions we were going to use for the interview and the objectives we had in the first place. The categories are:

- Learning Possibility (L.P.). This category is about the possibility or impossibility to learn a Second Language with a Hearing deficiency.
- Helps (H). We will use this category to talk about the helps, if there is any, which a Hearing Impaired child could receive or have in a classroom or in general (Hearing Aids, Cochlear Implants, etc.)
- Difficulties (D). This category is related to the difficulties that a Hearing Impaired child might face in their daily classes or in their lives.
- How to Teach (H.T.). It is referred to the strategies and techniques that teachers and specialist use to teach a Second Language in Hearing Impaired.
- Elements to Teach (E.T.). It is linked with the things that the students are going to be taught.

Considering all the categories and the theoretical framework we are going to analyse the interviews.

## 6.2. Analysis.

The first and main objective is to know if there is possible a learning of a Second Language in children that are Hearing Impaired. Subject A cleared out our doubts in this matter saying that it depends on many factors.

- a. The age when the Hearing loss happened. As we could see in the theoretical framework it is not the same to be born with the Hearing Impairment that acquired it. When a person is born Deaf this person would have much more difficulties in the learning of an Oral Language, even if it were a first language. As Subject A said, Language is a compilation of symbols, called words that have a representation in our brain. That representation allows us to understand what we are trying to say and to have a referent of understanding. The ability to transform words into brain images is called Symbolic Representation and is a skill that we acquire as we are growing when we listen people speaking. In children that have been born with Hearing Impairment that ability cannot be developed unless we give them the tools to do it. In this case, we will use as a language precursor the Sign Language and we will use it to allow the acquisition of the Symbolic Representation.

“If I can make a Deaf child, without any adaptation or help, through Sign Language develop the function of Symbolic Representation, later that child will be able to develop the Oral Language much better. Why? Because he has already developed the symbolism” (Subject A).

This would be to acquire a first language that would be Sign Language to create the symbolism necessary to acquire the Oral Language or other languages.

On the other side, if the child has not been born with Hearing Impairment that child would have acquired the Symbolic Representation through the Oral Language and it would be able to use it easily.

Related to the Second Language Learning Subject A said that “thus far people born with Hearing Impairment and without any Technical Aid are not typically users of a Second Language, but they can be able to understand written words and differentiate visually some concepts of the Second Language”.

Subject B presented us a case of a student that had Hearing Impairment but was not diagnosed with it.

“I had a student who now has a Hearing Aid, he understood a lot of English (...) and definitely they can understand the concept of the two languages together. (...) He understood the routine; he understood the day-to-day activities that I repeat all the time. (...) I think that if they have the intelligence level to learn a Second Language it doesn't matter if they are Hearing Impaired or anything, if they have the interest and they have a good teacher and enough time and patience, I think that anything is possible” (Subject B).

We do not know the degree of hearing loss of that student but we do know that by the time he was a student of Subject B, he was not wearing any Technical Aids and he was able to learn English. So perhaps there is a possibility of learning a Second Language with Hearing Impairment.

- b. Technical Aids. There are two types of Technical Aids and those aids give the person who wears them different results in the Language Learning.
  - o Hearing Aids. These devices only amplify the sounds which made difficult to acquire a language using it because does not have any improve in the hearing of moderate, severe or profound Deaf people. With a Hearing Aid, according to Subject A would be almost impossible to learn a Second Language due to the shortcomings in its use. The Second Language Learning only would work in people with mild Hearing Impairment.

- Cochlear Implant. There are a group of electrodes that made the function of the inner ear. The electrodes decode sound frequency into electric waves that go through the implant to the auditory nerve and to the auditory brain area.

“The problem with Cochlear Implants is that they are not able to differentiate all the frequencies from all the Languages. For example, Chinese frequency cannot be decoded with the Implant. (...) On the other side, the English Language has no problem in the frequency codification” (Subject A).

Therefore, English could be learned easily with this type of Hearing Aids. It would not be necessary to adapt the curriculum and the student would follow achieve the same level of English than its classmates. However we, as teachers should research about the frequencies that the implant can decode if we want to teach another language than English.

As we have seen Sign Language can be used as a First Language to acquire the Symbolic Representation. Once the symbolism has been acquired the person could learn other languages, Oral or Sign, it would depend on the Hearing Impairment and the Oral Skills that the person has. In this respect, it would be easier to acquiring Second Sign Language than acquire the Oral Language. Subject A explains to us why.

“A child who speaks Spanish Sign Language, will not have any problem in developing the official languages of other countries and can develop two, three... Sign Languages. In fact, it is much easier for Deaf people to learn Foreign Sign Languages because Sign Languages have so many components of facial and body expression that give a lot of information” (Subject A)

So it is much easier for them to learn other Sign Languages than for us to learn a Foreign Language because all the Sign Languages have almost the same grammatical structure, which makes easier to learn Foreign Sign Languages. On the contrary, Oral Languages have different syntactic structures in each Language; for example, English and Spanish have different syntactic structures. But, what would happen if we add Sign Language to the daily life of a school? Subject B gives us an answer:

“Teaching an infant, any infant, using Sign Language at the same time that using oral expression it is an excellent idea because in that way they become more kinaesthetic than teaching them just oral. They also work motility. You are filling all the objectives” (Subject B)

Despite this sounds very utopian, we could not agree more with this affirmation. If Sign Language was taught at the same time than the rest of the curricular areas our students would become much more capable of learning any language because it would increase their language learning capabilities. Also, it would help in a significantly to the Hearing Impaired students that would be a measure that could help to the inclusion of the Deaf community de-stigmatizing what a Hearing Impairment means and allowing them to get the same education as Hearing people have.

Although we have already talked about some of the helps that a Hearing Impaired receive to learn a Language, like it could be a Hearing Aid or a Cochlear Implant, the second objective is about other helps that they might get access to learn a Second Language. Children born Hearing Impaired face the challenge of acquiring a Language without hearing it. According to Subject A, they acquire the Oral Language artificially through a sequential system executed and carried out by speech therapists and the natural way of learning a language would be Sign Language. If the child has acquired Sign Language as his/her first language the can have a human special help:

“Deaf children can count with a mediator in the classroom. A mediator is a person who translates in Sign Language what the teacher says. The mediator is requested to the Education Ministry and it is granted for a number of hours a day. There are also mediators of the Foreign Language” (Subject A).

The mediator figure could be a great help in the learning of a Second Language in cases where the First Language is Sign Language because it would let them acquire a Foreign Language, but what happen if the student does not use or does not know Sign Language and they do not wear Cochlear Implants or Technical Aids that facilitate them to hear?

Subject A says that in this case, the student is taken out of the class in the Foreign Language hours to be with a Hearing and Language Specialist and work in their weakness or they stay in class but with Curriculum adaptations. In Subject B case, the student stayed in the class and B adapted the class to suit the student needs “he would look in my mouth and I would point and I would use visual aids and he was fine” (Subject B).

So, we could say that the main helps that Hearing Impairment receive; apart from the Technical Aids (Hearing Aids and Cochlear Implants) would be, Curriculum adaptations, specialist help (mediator who is a Sign Language interpreter, Hearing and Language Specialist, Speech Therapists) and visual aids like it could be the use of pictures, real objects, pointing things, lip reading, etc. things that help visually enough to understand the message.

In the third place and having in consideration the third objective of the investigation, as teachers we should know and understand the difficulties that a Hearing Impaired person might face in the acquisition of a Second Language. First, we are going to use as an example a person whom has as a First Language the Spanish Sign Language and wants to acquire a Second Sign Language. In this case,

“The main difficulty Deaf people face in Learning a Foreign Sign Language that Sign Languages have written systems called “Sign-Writing” that are very complicated because, how do I write a movement? Deaf people often are ignorant about how to read and write the Signs. Thus, they only have their memory to learn the Second Sign Language” (Subject A).

We can use another example to know more about difficulties. We have a child whose First Language is Sign Language and who recently has a Cochlear Implantation so now is able to listen and by hence they can acquire Oral Language. The main difficulty they would face would be that “Sign Language do not have the same lineal grammatical structure that Oral Language has, there are visual languages and therefore, have different grammatical types and syntactic levels” (Subject A). In consequence, the main problem would be to learn all the new grammar and syntax.



This learning of new grammar and syntaxes would also occur if a child has a Cochlear Implant and was able to understand English. In relation to the Cochlear Implant and even though we already said this, not all Languages are decoded by the Implant so this would be a difficulty if the Language to learn is one of those who cannot be decoded.

For Subject B “children who are Hearing Impaired definitely they can understand English, it is just the communicating back that would be difficult”. This means that they could acquire English as a Second Language but they would have difficulties in the expression of that Language.

We believe that also another thing that perhaps lead to difficulties is the age of diagnose of the deficiency but as Subject B says,

“It is very difficult to diagnose those types of things in infants, I mean, autism, ADHD, and visual and hearing problems, it is very difficult. Because you can say, <<oh they are just ignorant, they are just rude>> and then you realise they have problems and you think <<oh my goodness they had problems>>”

If a child born with the Hearing Impairment is not diagnosed soon enough its acquisition of the symbolic would not have place and in consequence, the Language acquisition would be very difficult, if not impossible. In addition, it would be very hard for him/her to follow the course of the class and to achieve the curricular objectives.

What comes to our mind next and having in consideration the fourth objective of the investigation, is to know how to teach a Second Language to a Hearing Impaired child. Subject B gives us some clues on how could it be done:

- Visual aids, a lot of visual aids and lot of pointing to make clearer the meaning.
- Do the lesson to suit them, make sure they are at the front and make sure you are looking directly at them.
- Be patience with them.
- If it is necessary, adapt the worksheets.
- You should be sure that they keep the eye contact with you.
- Let them know you care about them, be affective, that will made them more interested and make sure they do not fell ignored.

We believe that this would be kind of a Total Physical Response methodology because... without taking into account or in much consideration the Hearing part of the method because the stimulus would be visual. Which means that only the Physical Response of the method would be used.

Once we now how to teach we should care about what elements should be taught. The first thing to have in consideration, as we said, is to know if the Hearing Impaired had already developed de Symbolic Representation necessary to acquire Language. If they do not have developed Symbolism we should help them by giving them some tools to acquire it, because as we know, if they do not acquire it they will never be able to use Language (Oral, Written, Sign Language, etc.). If they had acquired the Symbolic Representation function they are one step closer to acquire a First Language or even a Second Language. In the Second Language Learning, referred to a Foreign Language, both of our interviewed subjects agreed in what Deaf children without a Cochlear Implant are taught. Children are taught some basic vocabulary, usually written and if they are not able to do so, they get a curricular adaptation or they go out of the class to get better in the First Language skills with the help of speech therapists or a Hearing and Language Specialist. Subject A adds to this information that if the child has a Cochlear Implant, most of the times he/she could follow the exact same pace of learning than his/hers classmates, in this case, it would not be necessary any adaptation.

### 6.3. Interview Conclusions.

With all the information obtained from the interviewed subjects, we can say that there are a big amount of different cases in what it is referred to the Learning of a Second Language in children with Hearing Impairments. That amount of differences depends on factors like, the age when the Hearing Impairment started, the Technical Aids that the person has to mitigate the Impairment effects, the time when the First Language was acquired and many other factors.

The most important thing in relation to the time of First Language acquisition and the age when the Hearing Impairment started is to know if the child has acquired or not the Symbolic Representation.

If the child was born Deaf it would be more difficult to develop it, on the contrary, if the Hearing Loss started years later the symbolism would already be acquired and Language acquisition would not be so hard as if it has not been acquired the Symbolic Representation.

In what it is related to the Technical Aids, as far as we know, if a child wears a Cochlear Implant would not have any trouble in the Learning of a Second Language but if the child only wears a Hearing Aid or does not wear any Technical Aids, as Subject A says, “Currently none is able to dominate a Second Language, not to say that is practically impossible”.

In reference to the helps and difficulties that a child might find we conclude that those difficulties could be mitigated, most of the times, with the adequate helps and resources like Speech Therapists or Sign Language Interpreters. The problem is that sometimes schools do not have an easy access to those resources.

With all of this, can conclude that although is difficult to learn a Second Language with Hearing Impairment it is not impossible and as teachers and Education Scientifics we should investigate in how to teach a Second Language in order to bring a better education to all the children, without caring about deficiencies.

## **7. Conclusions and Reflexions.**

Hearing Impairment might become a Disability or a Handicap if from the very beginning we as educators do not do something to stop that, and in consequence, our student with Hearing Impairment would never develop their full potential. Among the problems that Hearing Impairment can involve, Language acquisition is one of them. If a Hearing Impaired does not achieve to get the Symbolic Representation because of the lack of Hearing, Language and communication will never be accomplished and the Learning of a Second Language would never take place. There are different ways of acquiring that Symbolism like using Sign Language, Technical Aids (Cochlear Implants, Hearing Aids, Visual Aids, etc.) and choosing the best and the one that suits the child is not always easy.

Hearing Impairment could, perhaps, lead to the child to have Special Educational Need, if it is the case, the school should decide what measures take in order to help the child. To do so the school should do several evaluations, among those evaluations we find the Psychological Evaluation, Scholar Evaluation and Social Evaluation. It is also imperative to identify if Deafness is attached to other Impairments like a low level of Intelligence, but as we could see it is difficult to evaluate the Intelligence in Hearing Impaired people.

Despite the problems that Hearing Impaired might have in communication it is not impossible for them to learn a Second Language. As far as we know, with a Cochlear Implant is possible to acquire the English Language at the same level as ordinary people do. Also, there are cases of Sign Bilinguals; this means that they know two or more Sign Language. The learning of a Second Language can also happen if the person First Language was Sign Language and then Oral Language was acquired or vice versa. As it can be seen there are several different casuistries in the Second Language Learning and these cases depend on factors like: the age when the Impairment started, the Technical Aids available, the Language that was developed in the first place, etc.

We believe that it is possible to learn a Second Language with Hearing Impairment, of course, it is not an easy path but with effort and patience it is possible. In addition, we have noticed that there are not as many investigations as we thought that would be about the Learning of a Foreign Language in children with Hearing Impairment, it is an interesting matter but maybe the educational field do not feel the necessity to investigate it, situation that should change.

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## 9. Annex.

### 9.1. Annex 1. Interview.

- Is it possible for a person with Hearing Impairment to learn/acquire a Foreign Language? (Whether if its Sign Language or Oral Language).
- What help does a student with Hearing Impairments receive in the classroom? And what helps does it has for the English learning?
- What do these helps depend on?
  - o Degree of Hearing Impairment?
  - o Subject?
  - o External institutions?
- What difficulties could the person who acquires the Second Language present?
- If it is not possible for the children, to learn the Foreign Language, what happen with the student? Is he taken away from class during the English class?
- In the case of children with profound Hearing Impairments who have an almost zero use of Oral Language, are they taken to special centres? What would happen if parents want him to be in an inclusive or non-inclusive centre? Could he/she learn a Foreign Language? Is the oral part replaced?
- When the deficiency is mild or moderate, how is English taught? What resources are used, in which moments?
- What skills and competences of English are taught? Is the same as the rest of the students or is simplified? What elements are used?



## 9.2. Annex 2. Interview 1- Sign Language Interpreter. Subject A.

Bueno, ante todo muchas gracias por acceder a hacer esta entrevista y empezamos.

¿Es posible que una persona con deficiencia auditiva aprenda o adquiera una lengua extranjera, ya sea por signos, o en lenguaje oral?

- A ver, lo primero siempre... esto es una cosa que supongo que ya Marta la has comentado pero es que claro, depende muchísimo de si esa persona con déficit auditivo tiene alguna ayuda técnica o algún otro tipo de prótesis auditiva. Y también a parte de las prótesis, la edad también en la que haya perdido la audición, a ver si me explico. Un niño a podido nacer oyente y tener ya adquirida una lengua, su lengua materna que puede ser el castellano, o puede ser que ese niño haya nacido con un déficit auditivo, entonces vamos a intentar contestar a la pregunta teniendo en cuenta que ese niño ha nacido con déficit auditivo y que no ha sido por ejemplo, implantado coclearmente ni tiene ninguna otra ayuda técnica. La forma de aprendizaje de la lengua oral para este niño, siendo la forma más habitual en ellos, será una forma de aprendizaje de la lengua oral artificial, es decir, a través de un sistema secuencial que llevará a cabo desde logopedas, entonces el desarrolla la lengua oral. Hasta la fecha, las personas con déficit auditivo que han nacido sordos y que no tienen ningún tipo de implante coclear pues normalmente no son usuarios de una lengua extranjera, así bien si que son capaces de entender palabras escritas y visualmente diferenciar algún termino en ingles o en otros idiomas pero siempre con una ayuda visual o una transcripción pero aprendidas de una forma muy secuencial, es decir, primero aprenden a unir la palabra escrita y luego a través de una imagen se une el significado, pero así como desarrollar otra lengua es muy complejo para ellos.

Los niños que han nacido con una perdida auditiva, han sido implantados coclearmente, si que esto es un dato que os puede resultar curioso pero el implante coclear ahora mismo esta teniendo muchísimo auge porque es una prótesis que si que esta consiguiendo. Son unos electrodos que lo que hacen es hacer la función del oído interno, entonces lo que hace, el sonido es convertido en energía eléctrica para que los sonidos se transmitan a través del nervio auditivo hasta la zona cerebral auditiva. Entonces, si que han conseguido que los niños implantados puedan conseguir la lengua oral, es decir, puedan diferenciar frecuencias. Nosotros cuando hablamos oímos porque

el habla son diferentes frecuencias, cada letra o cada sílaba tiene diferente frecuencia en el oído, entonces esto es lo que hace que nosotros podamos procesar las palabras y descodificarlas. ¿Qué pasa? Que muchos idiomas los implantes cocleares no son capaces de diferenciar estas frecuencias porque no son idiomas solo de frecuencias del habla, son muchas de tipo de volumen, así por ejemplo, el chino mandarín que es una lengua muchísimo más cantada, los implantes cocleares no son capaces de realizar esta descodificación de frecuencia volumétrica como para que el ser humano las pueda procesar. No todos los idiomas son entendidos de la misma forma por un implante coclear. Nosotros cuando hablamos realmente son un conjunto de frecuencias, entonces nosotros en el oído interno tenemos una membranita que dependiendo de la frecuencia que vamos utilizando con las palabras pues vibra de una forma u otra. El chino Mandarín o otros idiomas que no son solo frecuencias sino que el volumen es importante, o la música por ejemplo, muchísimas personas sordas, la música no consiguen del todo entenderla porque es más rítmica y eso todavía no lo ha conseguido el implante. Pero el inglés por ejemplo es bien entendido o lo pueden procesar las personas con implante coclear y no tendrían dificultad en aprender una segunda lengua inglesa y así mismo cualquier niño que haya nacido con una deficiencia auditiva profunda y haya aprendido su lengua natural, ya sea la lengua de signos como lo es en personas sordas, no va a tener ningún problema en adquirir la lengua oral pero siempre será adquirida con un procedimiento que no va a ser natural para él, va a ser a través de algún sistema o algún método artificial que facilite el aprendizaje de la lengua.

Una cosa importante Marta con el tema de la discapacidad auditiva y aprender las lenguas, mira, un niño cuando nace, para poder adquirir una lengua o desarrollar una lengua, la capacidad de desarrollar el lenguaje que se hace a través de las lenguas. O sea, el lenguaje es una capacidad de comunicarnos con otros, que eso sería por ejemplo una comunicación que cualquier animal, por ejemplo un perro, se comunica con nosotros a través del movimiento del cuerpo, pero el ser humano ha desarrollado algo más complejo que es el lenguaje y es a través de palabras que son como símbolos, convertirlas en referentes en su cerebro, son símbolos, o sea, para mí casa a través de la voz representamos un símbolo que nos permite visualizar una casa.

O sea, que la palabra la asociamos con una imagen que tenemos en el cerebro.

- Eso es, cuando un niño nace va desarrollando sus funciones cerebrales y a través de ello también lo que es la función simbólica, vale, que es una función más

compleja del ser humano. Entonces, la función simbólica es un previo muy importante para que el ser humano pueda desarrollar el lenguaje, es decir, sea capaz de unir cosas que no tienen ninguna relación y que su cerebro diga esto es. Es decir, un niño que sea capaz de anticipar que cuando dices casa, sin ver la casa le viene a lo que te refieres en la cabeza, y esto también se ve en el juego simbólico, que son capaces de por ejemplo mover un palo de una fregona como si fuera un caballo, ese niño tiene capacidad simbólica de representación, es decir, está poniéndole a una cosa que no tiene nada que ver una propiedad de un caballo, pues es lo mismo que el ser humano hace con las palabras. Por ejemplo, bolígrafo que es una palabra o un sonido que para mí ya tengo un referente mental. ¿Qué pasa? Para que desde niños podamos desarrollar el lenguaje necesitamos desarrollar esa capacidad, entonces, un niño sordo no oye las palabras, si nosotros no le damos desde el principio una herramienta para que pueda desarrollar esta capacidad para que entienda que no es solo la inmediatez, sino que nuestro cerebro de a través de un signo o un gesto representar una cosa, esa capacidad no se va a desarrollar a tiempo. Es decir, si yo cierro mi mano y cada vez que cierro mi mano y me doy con el puño en el corazón quiere decir te quiero, eso ya es una representación de algo. Esto es un proceso neuronal muy complejo que si no lo desarrollamos en el niño nunca va a poder desarrollarse.

¿Y ese desarrollo se puede dar por ejemplo con el lenguaje de signos?

- Claro, eso es, entonces si esa función el niño ya la desarrolla sea como, o sea, quiero decir que a través de otra lengua por ejemplo la lengua de signos que es su lengua natural no le hace falta ningún procedimiento artificial, si esas redes neuronales ya están activas y el niño entiende esa capacidad de los símbolos y ahí ya estoy teniendo un precursor, por así decir, del lenguaje muy importante. Y un niño sordo hasta varios años después no va a ser capaz a través del lenguaje de poder desarrollar esto. Entonces, si yo a un niño sordo sin ningún tipo de adaptación consigo a través de la lengua de signos desarrollarle esta función después va a ser capaz de desarrollar muchísimo mejor la lengua oral, ¿por qué? Porque ese proceso del simbolismo ya lo tiene desarrollado, y eso está super comprobado en los niños sordos, y actualmente lo más importante para los profesores de Audición y lenguaje que trabajan con niños sordos sin desarrollar el lenguaje, lo que más dicen es: “es que son incapaces de jugar como los niños

oyentes, es como si no entendiera el juego” Es muy importante que tengamos claro que el lenguaje es un conjunto de símbolos que nuestra cabeza es capaz de representar y con esa capacidad de representación a través de la lengua de signos se logra. Y luego, ya teniendo esos procesos neuronales puede adquirir muchísimo más fácilmente la lengua oral, vale, estoy hablando de un niño sordo de nacimiento y que no ha sido implantado coclearmente.

O sea, sería por así decirlo como adquirir una primera lengua que sería en este caso la lengua de signos, para crear ese simbolismo necesario para luego adquirir la lengua oral u otras lenguas.

- Perfecto, eso es. Quiero decirte que eso es lo más importante para que el ser humano pueda adquirir un lenguaje, es decir, que primero desarrollen la capacidad simbólica, porque nunca la va a poder desarrollar sin una lengua de signos, básicamente porque desde pequeños tiene que tener primero esta capacidad de simbolismo que tiene el ser humano y luego posteriormente podrá desarrollar la lengua oral y podrá incluso aprender palabras de otras lenguas como un oyente.

Bueno pues, la siguiente pregunta está también relacionada con esta, ¿qué ayudas recibe un alumno con deficiencia auditiva dentro del aula? Y a parte de esas ayudas relacionadas con aprender inglés.

- A ver, lo primero, es que es la complejidad de la heterogeneidad de las personas sordas que puede haber. Vamos a plantear un niño sordo que ha nacido sordo que no lleva implante coclear, ha sido educado por ejemplo con un método oral en una clase de inglés. Pues imagínate que simplemente el no conoce la lengua de signos, no tiene ayudas técnicas, hoy por hoy o hasta ahora, normalmente les hacen adaptaciones curriculares en el aprendizaje de otras lenguas. ¿Por qué? Porque evidentemente es complejo que ese niño aunque cuente con un audífono con el que es muy difícil que una persona entienda algo del habla, o de la lengua oral, porque hoy en día los audífonos no son capaces de diferenciar las frecuencias del habla, los audífonos simplemente amplifican el sonido. Entonces, hoy por hoy, los niños sordos con una sordera bastante severa o moderada, o asisten a las clases con una adaptación curricular, que escriban alguna palabra de vocabulario... Pero hoy por hoy casi ninguno es capaz de dominar una segunda lengua por no decir que es prácticamente imposible.

Y a estos niños si se decide por ejemplo, sacarlos del aula en la hora de inglés se les pone un técnico de audición y lenguaje que le ayude a mejorar su lenguaje en el idioma nativo o se le enseña lengua de signos... bueno hay muchos casos distintos pero... más o menos.

- Es que cada niño es un mundo, hemos planteado el caso de un niño que simplemente lleva un audífono, con una pérdida auditiva severa o moderada, que apenas oye nada de la lengua oral y que el desarrollo oral va a ser un poco limitado porque evidentemente las personas sordas tienen muchísima complejidad en el desarrollo del lenguaje, lo que se hace en inglés, pues se les pide vocabulario básico y si que es verdad que si que lo sacan del aula o no asiste a esta clase como es el caso de muchos de ellos y se les pone con un profesor de Audición y lenguaje, también para practicar algo de vocabulario pero algo muy limitado.

Si tenemos otro caso, por ejemplo de un niño implantado coclearmente desde muy pequeñito y la lengua inglesa no tiene ningún problema para ser entendida a través del implante sin adaptaciones ni nada se le podría pedir lo mismo que al resto de compañeros.

También podemos tener el caso de un niño que es sordo de nacimiento, su lengua materna es la lengua de signos y aunque se defiende en lengua oral, pueden contar como con un mediador en el aula que les traduzca en lengua de signos lo que dice el profesor. Este mediador se solicita a la consejería de educación que corresponda y se les concede durante un numero de horas al día. También hay algunos que median en lengua extranjera. Hay muchos que aunque tengan interprete se les hace una adaptación curricular porque es muy complejo que desarrollen otra lengua, pero es lo que te digo, se basa en aprendizaje de vocabulario escrito, cosas que puedan entender... pero es muy complejo.

Y bueno, tu eres interprete de signos y la lengua de signos española no es igual que la inglesa a la americana, ¿Tú crees que sería posible que un niño que ha aprendido desde el principio la lengua de signos española pudiese aprender la inglesa, la americana...?

- Un niño que habla lengua de signos española como cualquier oyente habla el castellano, no va a tener ningún problema porque es su lengua natural, no va a tener ningún problema en desarrollar las lenguas oficiales de otros países y

puede desarrollar dos, tres... lenguas de signos. De hecho es muchísimo más fácil para las personas sordas porque las lenguas de signos tienen muchísimos componentes de expresión facial y corporal que dan muchísima información, entonces tiene muchísima más facilidad que nosotros en aprender otras lenguas de signos. Porque realmente las lenguas de signos, no tienen la misma gramática lineal que nosotros tenemos, son lenguas visuales y tienen un tipo de gramática y de niveles sintácticos distintos, es una lengua visual y todo en los que usan lenguas de signos es visual. Ellos a través de las manos dan una información que es visual. Por ejemplo, nosotros en una lengua oral como el castellano nos enfrentamos a una gramática diferente ante el inglés por ejemplo, sin embargo las lenguas de signos gramaticalmente son todas básicamente iguales. La diferencia entre idiomas en las lenguas de signos son básicamente en los signos como puede ser en palabras que se signen distinto. En España tenemos la lengua de signos española y catalana como lenguas de signos oficiales y luego hay diferencias en la lengua de signos española según las regiones pero la gramática es muy similar en todos los idiomas.

¿Qué problemas podría presentar una persona que habla lengua de signos española a la hora de aprender la lengua de signos inglesa? Se que son muy parecidas y bueno podría liarse igual que en la oral pero ¿cuál sería?

- Pues mira, el principal problema que encuentran las personas sordas en aprender una lengua inglesa de signos es sobre todo que las lenguas de signos tienen sistemas de escritura que se llaman signo escritura pero son un poco complejos porque ¿cómo escribo yo un movimiento? Y claro, las personas sordas, en ocasiones la desconocen. Entonces, solo cuentan con la memoria y para ellos aprender es más complejo porque no tienen forma de escribirlo. Es decir, que ellos están aprendiendo lengua de signos inglesa con una persona nativa pero solo cuentan con la memoria a la hora de aprender o bien lo que ellos puedan escribirse a sí mismos con pictogramas o con fotos u otros recursos visuales pero realmente es movimiento y son configuraciones en las manos que hacen que escribirlas sea muy complejo y entenderlo y las personas sordas no la han desarrollado como nosotros la escritura y muchísimos ni la conocen, es muy artificial para ellos.

Hace años la lengua de signos estaba prohibida por así decirlo, los niños sordos eran llevados a colegios especiales en los que se les enseñaba la lengua oral bueno, básicamente historia de lo que es la comunidad sorda, ahora ¿existen esos colegios en los que se les enseña solo lengua de signos o son simplemente llevados a colegios inclusivos?

- Con el cambio de leyes de educación hoy en día ya no existen esos colegios especiales para sordos o ya no tiene lugar ese tipo de educación. Actualmente lo que existen son colegios de referencia, colegios ordinarios que son referentes para personas sordas o para personas ciegas. Por ejemplo, en Soria, el colegio de referencia de niños sordos es la Fuente del Rey. Lo que se hace es escolarizarlos de forma ordinaria y lo que se hace es una educación ordinaria y se hacen las adaptaciones curriculares que sean necesarias y se utilizan medios como pueden ser horas con técnicos de audición y lenguaje, con logopedas que faciliten un poquito.

Bueno pues eso es todo, muchas gracias por tu tiempo.

### 9.3. Annex 3. Interview 2- English Teacher. Subject B.

So, the interview is about the learning of a Second Language in children with Hearing Impairment. So, I want you to tell me if there is a possibility to learn English in a Spanish boy or girl with Hearing Impairment.

- I think there is definitely a possibility that they could reach a good level of English, I mean, in the past when I was in England we had a child who is Hearing Impaired and obviously he did Sign Language, you know, he was not an oral English speaker, he used Sign Language, he could not communicate, so I mean to teach English Sign Language because English and Spanish Sign Language it is different, so that's seems a bit logical, to learn Spanish. It is a good question, I mean; I had a student who now has a Hearing Aid.

I know and that is why I ask you.

- He was, he understood a lot of English, his communication abilities were very limited but he would look in my mouth and I would point and I would use visual aids and he was fine, definitely they can understand the concept of the two languages together.

And what is the main problem that the child we are talking about in the learning of the language.

- He was shy as well, he has shyness because he couldn't hear and when he was in infants he wasn't diagnosed as having such a disability, but he understood, like I said. So, the main problem were obviously couldn't hear what I was saying, hear the instructions. He understood the routine; he understood the day-to-day activities that I repeat all the time. But, visual aids, a lot of visual aids, a lot of pointing and he understood the meaning. So for children who are Hearing Impaired definitely they can understand, it is just the communicating back that would be difficult. If they are only slightly hearing Impaired and they can communicate then definitely teaching them English is fine.

And now that he is in primary, he has some curriculum adaptations or...

- I don't know, the problem with the student is as well; he wasn't a very high level of intelligence. I mean, imagine if you have a student who is very intelligent and wanted to learn but he was Hearing Impaired, then you would adapt the curriculum, definitely do the lesson to suit them, with visual stuff, make sure



they are at the front, make sure you are looking directly at them, but with this student he struggled at “Lengua” as well and other lessons and I am not sure if it was his disability what made him struggled or just his character. It is a fine line having a disability and having ability to learn things.

Or maybe because he was not diagnosed before?

- This is true, I loved him he had “ganas” he really wanted to learn, you know, and even now when I see him is one of the only students in his class that will say “Hello teacher! Hello!” You know, he is a lovely boy, and perhaps it was because he was not diagnosed soon enough.

In a child who has a cochlear implant there are some languages that the implant can't perceive. Do you think that a child with a cochlear implant could learn English from the beginning and do it like any other child?

- Yeah, definitely. If he has the ability to learn a language yeah, I don't see why, I mean English or any Second Language. We have a lot of different sounds that you have in Spanish but imagine that the implant picks all. I think that if they have the intelligence level to learn a Second Language it doesn't matter if they are Hearing Impaired or anything, if they have the interest and they have a good teacher and enough time and patience, I think that anything is possible. People with their parents, maybe one Spanish and one English, so they are fully immerse in learning the two languages, I think anyone can learn to languages.

What type of skills and competences of English were you teaching him? I mean, oral skills, writing skills...

- Well in Infants, by the time they finish Infants they need to be able to read and write basic vocabulary, so even children that have Hearing Impairments I still try to push them to have the basics. I work along side the tutor, so the tutor is teaching the idea and notion of writing and when I teach them writing they already have understanding of what it is. You know, if you start too soon, it is difficult but at five they can do it and any of them can, again, it is the level of intelligence, or the level of interest. If there is a really naughty child it doesn't matter what problem they have, they don't do anything. But with someone like the student, always visual, always patience with him, maybe adapt some of the worksheets. Perhaps on the worksheet it is pictures and then he has to write what the picture is and with the class I would have done like an oral explanation.

And maybe speak slowly with him?

- Definitely, with him I had to be sure that I had the eye contact. And with him loving, you know, to be touch, he was a really affectional boy and that made him more interested, he wasn't being ignored.

Yeah, he wasn't feeling ignored, he felt like the teacher cared about him.

- Yes, but not only him, with every child is the same. With him I enjoyed the challenge of trying to teach him.

It is very difficult to diagnose those types of things in infants, I mean, autism, ADHD, and visual and hearing problems, it is very difficult. Because you can say, "oh they are just ignorant, they are just rude" and then you realise they have problems and you think "oh my goodness they had problems"

What do you think about Sign Language?

- Teaching an infant, any infant using Sign Language at the same time that using oral expression it is a excellent idea because in that way they become more kinaesthetic than teaching them just oral. They also work motility. You are filling all the objectives; they are using the eye hand coordination and all this things. I think is a lovely idea but it is difficult to find a teacher who knows Sign Language and you have to learn it but if you find out that you have in your class some one with a Hearing Impairment the kids could communicate with him and it wouldn't be a stigma like "uuuu they are talking strange". Maybe in the next fifty years...

Well, that is all, thank you very much.

#### 9.4. Annex 4. Categorization Interview 1.

##### **Learning Possibility (L.P.).**

- depende muchísimo de si esa persona con déficit auditivo tiene alguna ayuda técnica o algún otro tipo de prótesis auditiva. Y también a parte de las prótesis, la edad también en la que haya perdido la audición
- Hasta la fecha, las personas con déficit auditivo que han nacido sordos y que no tienen ningún tipo de implante coclear pues normalmente no son usuarios de una lengua extranjera
- así bien si que son capaces de entender palabras escritas y visualmente diferenciar algún termino en ingles o en otros idiomas
- Entonces, si que han conseguido que los niños implantados puedan conseguir la lengua oral, es decir, puedan diferenciar frecuencias.
- el inglés por ejemplo es bien entendido o lo pueden procesar las personas con implante coclear y no tendrían dificultad en aprender una segunda lengua inglesa y así mismo cualquier niño que haya nacido con una deficiencia auditiva profunda y haya aprendido su lengua natural, ya sea la lengua de signos como lo es en personas sordas, no va a tener ningún problema en adquirir la lengua oral
- Para que desde niños podamos desarrolla el lenguaje necesitamos desarrollar esa capacidad, entonces, un niño sordo no oye las palabras
- lengua de signos que es su lengua natural no le hace falta ningún procedimiento artificial (...) ahí ya estoy teniendo un precursor del lenguaje muy importante
- Entonces, si yo a un niño sordo sin ningún tipo de adaptación consigo a través de la lengua de signos desarrollarle esta función después va a ser capaz de desarrollar muchísimo mejor la lengua oral, ¿por qué? Porque ese proceso del simbolismo ya lo tiene desarrollado.
- el lenguaje es un conjunto de símbolos que nuestra cabeza es capaz de representar y con esa capacidad de representación a través de la lengua de signos se logra. Y luego, ya teniendo esos procesos neuronales puede adquirir muchísimo más fácilmente la lengua oral,
- un niño que simplemente lleva un audífono, con una perdida auditiva severa o moderada, que apenas oye nada de la lengua oral y que el desarrollo oral va a ser un poco limitado porque evidentemente las personas sordas tienen muchísima complejidad en el desarrollo del lenguaje,

- por ejemplo de un niño implantado coclearmente desde muy pequeñito y la lengua inglesa no tiene ningún problema para ser entendida a través del implante sin adaptaciones ni nada se le podría pedir lo mismo que al resto de compañeros.
- Un niño que habla lengua de signos española como cualquier oyente habla el castellano, no va a tener ningún problema porque es su lengua natural, no va a tener ningún problema en desarrollar las lenguas oficiales de otros países y puede desarrollar dos, tres... lenguas de signos. De hecho es muchísimo más fácil para las personas sordas porque las lenguas de signos tienen muchísimos componentes de expresión facial y corporal que dan muchísima información, entonces tiene muchísima más facilidad que nosotros en aprender otras lenguas de signos.

### **Helps (H).**

- a través de un sistema secuencial que llevará a cabo desde logopedas,
- Los niños que han nacido con una pérdida auditiva, han sido implantados coclearmente, si que esto es un dato que os puede resultar curioso pero el implante coclear ahora mismo esta teniendo muchísimo auge porque es una prótesis que si que esta consiguiendo. Son unos electrodos que lo que hacen es hacer la función del oído interno, entonces lo que hace, el sonido es convertido en energía eléctrica para que los sonidos se transmitan a través del nervio auditivo hasta la zona cerebral auditiva
- que si que lo sacan del aula o no asiste a esta clase como es el caso de muchos de ellos y se les pone con un profesor de Audición y lenguaje, también para practicar algo de vocabulario pero algo muy limitado.
- pueden contar como con un mediador en el aula que les traduzca en lengua de signos lo que dice el profesor. Este mediador se solicita a la consejería de educación que corresponda y se les concede durante un numero de horas al día. También hay algunos que median en lengua extranjera.

### **Difficulties (D).**

- muchos idiomas los implantes cocleares no son capaces de diferenciar estas frecuencias porque no son idiomas solo de frecuencias del habla, son muchas de tipo de volumen, así por ejemplo, el chino mandarín que es una lengua muchísimo más cantada, los implantes cocleares no son capaces de realizar esta descodificación de frecuencia volumétrica como para que el ser humano las pueda

procesar. No todos los idiomas son entendidos de la misma forma por un implante coclear.

- si nosotros no le damos desde el principio una herramienta para que pueda desarrollar esta capacidad para que entienda que no es solo la inmediatez, sino que nuestro cerebro de a través de un signo o un gesto representar una cosa, esa capacidad no se va a desarrollar a tiempo.
- las lenguas de signos, no tienen la misma gramática lineal que nosotros tenemos, son lenguas visuales y tienen un tipo de gramática y de niveles sintácticos distintos,
- nosotros en una lengua oral como el castellano nos enfrentamos a una gramática diferente ante el inglés por ejemplo, sin embargo las lenguas de signos gramaticalmente son todas básicamente iguales.
- el principal problema que encuentran las personas sordas en aprender una lengua inglesa de signos es sobre todo que las lenguas de signos tienen sistemas de escritura que se llaman signo escritura pero son un poco complejos porque ¿cómo escribo yo un movimiento? Y claro, las personas sordas, en ocasiones la desconocen. Entonces, solo cuentan con la memoria

#### **How to Teach (H.T.).**

- siempre con una ayuda visual o una transcripción pero aprendidas de una forma muy secuencial,

#### **Elements to Teach (E.T.).**

- O sea, que la palabra la asociamos con una imagen que tenemos en el cerebro.  
Eso es, cuando un niño nace va desarrollando sus funciones cerebrales y a través de ello también lo que es la función simbólica, vale, que es una función más compleja del ser humano. Entonces, la función simbólica es un previo muy importante para que el ser humano pueda desarrollar el lenguaje
- sería por así decirlo como adquirir una primera lengua que sería en este caso la lengua de signos, para crear ese simbolismo necesario para luego adquirir la lengua oral u otras lenguas.
- lo que se hace en inglés, pues se les pide vocabulario básico
- se basa en aprendizaje de vocabulario escrito, cosas que puedan entender... pero es muy complejo

## 9.5. Annex 5. Categorization Interview 2.

### **Learning Possibility (L.P.).**

- I think there is definitely a possibility that they could reach a good level of English
- I had a student who now has a Hearing Aid, he understood a lot of English,
- definitely they can understand the concept of the two languages together.
- He understood the routine; he understood the day-to-day activities that I repeat all the time.
- I think that if they have the intelligence level to learn a Second Language it doesn't matter if they are Hearing Impaired or anything, if they have the interest and they have a good teacher and enough time and patience, I think that anything is possible
- Teaching an infant, any infant using Sign Language at the same time that using oral expression it is a excellent idea because in that way they become more kinaesthetic than teaching them just oral. They also work motility. You are filling all the objectives;

### **Helps (H).**

- he would look in my mouth and I would point and I would use visual aids and he was fine
- then you would adapt the curriculum, definitely do the lesson to suit them

### **Difficulties (D).**

- his communication abilities were very limited
- He was shy as well, he has shyness because he couldn't hear and when he was in infants he wasn't diagnosed as having such a disability, but he understood,
- the main problem were obviously couldn't hear what I was saying, hear the instructions.
- So for children who are Hearing Impaired definitely they can understand, it is just the communicating back that would be difficult.
- he is a lovely boy, and perhaps it was because he was not diagnosed soon enough.
- It is very difficult to diagnose those types of things in infants, I mean, autism, ADHD, and visual and hearing problems, it is very difficult. Because you can

say, “og they are just ignorant, they are just rude” and then you realise they have problems and you think “oh my goodness they had problems”

**How to Teach (H.T.).**

- visual aids, a lot of visual aids, a lot of pointing and he understood the meaning
- definitely do the lesson to suit them, with visual stuff, make sure they are at the front, make sure you are looking directly at them,
- always visual, always patience with him, maybe adapt some of the worksheets.
- I had to be sure that I had the eye contact. And with him loving, you know, to be touch, he was a really affectional boy and that made him more interested, he wasn't being ignored.

**Elements to Teach (E.T.).**

- They need to be able to read and write basic vocabulary,