

UNIVERSITY AHMED DRAÏA - ADRAR
FACULTY OF LETTERS AND LANGUAGES
DEPARTMENT OF ENGLISH LANGUAGE AND LITERATURE

Teaching Sign Language to the Deaf Children in Adrar, Algeria:
A Case Study of the Hearing Impaired Children`s School in
Adrar

A Thesis Submitted in Partial Fulfillment of the Requirements for
the Degree of Master of Arts in Linguistics and Didactics

Candidate:

Hicham Abdelouafi

Supervisor:

Mr. Mohammed Omari

2017-2018

Abstract

A little is known about the teaching of deaf children in Algeria, particularly in Adrar. This study aims to investigate the current situation of teaching sign language to the deaf children in Adrar, Algeria. A case study of the school of hearing-impaired children in Hai Graoui. This research uses interviews with the deaf teachers, the deaf pupils, and other specialised individuals in addition to classroom observations as a research methodology to collect data, analyse it, and to find results. The case study revealed a diverse number of results. These results reflect some challenges and barriers encountered by the deaf teachers and their deaf pupils as well. Hence, some suggested strategies and recommendations on the findings are given as barriers-free and solutions, to change the current situation and to improve the special education system used for the deaf and enhance their learning process, linguistic development, and their academic performance in the future as far as possible.

Keywords: hearing-impaired children, teachers of the deaf, sign language, special education, Adrar.

Dedication

The researcher dedicates this work to the deaf children, their teachers, their families, and whoever works with them to make their life better whether in Adrar, Algeria or at any place all around the globe.

Acknowledgements

This piece of research would not have been completed without the guidance and wisdom of God the Almighty (Allah). The researcher wishes to thank many people who always gave their love and support for him on this long journey.

My gratitude is extended to Mr Omari Mohamed, my first supervisor, for his on-going encouragement and supervision which was essential in every single step for the completion of this master dissertation. He was always the to guide, correct, and answer my endless questions. My thanks go to my family, my teachers at the department of English, and my friends inside and outside the University of Adrar.

They always have supported me all along the beautiful five years journey in a way or another, and I owe them all a great deal in my life.

Table of Contents

Abstract	I
Dedication	II
Aknowledgements.....	III
Table of Contents	IV
List of Tables	VIII
List of Figures.....	VIII
General Introduction	1
Section One: An overview of sign language.....	3
1.History of sign language and its development in the world.....	3
1.1.Sign language before documentation.....	3
1.2.Sign language documentation	4
2.Sign languages in Africa and the Arab world	6
2.1.The transmission of sign language and its current situation in Africa.....	6
2.2.Sign language situation in the Arab world.....	8
2.3.Previous studies about Arabic sign languages	9
3.Features of sign language.....	11
3.1.Nature, meaning and structure of sign languages	11
3.2.Linguistic features of sign language	12
3.2.1.Sign languages` phonology, morphology and syntax	12
3.2.2.Productivity, displacement, interchangeability and learn ability features	
.....	13

3.2.3.Linguistic research on Arabic sign languages` features	14
3.3.Linguistic variation in sign languages	14
3.3.1.Spoken and sign languages` number around the world	14
3.3.2.Sign languages variation	15
3.3.3.Previous studies of variation in American Sign Language.....	15
3.3.4.Previous studies of variation in Arabic sign languages	16
Section Two: Deaf people, Sign language, and Education	17
1.Deafness and the nature of deaf people	17
1.1.The medical model of deafness.....	17
1.2.The linguistics model of deafness.....	18
2.Deaf children ability and the need to develop a sign language.....	19
2.1.The use of sign language versus the medical treatments	19
2.2.Special education and deaf children	20
2.2.1.The emergence of deaf education in general	20
2.2.2.The status of sign language and deaf special education	20
2.3.An overview of special education around the world	21
2.3.1.Deaf and education in Algeria	22
2.3.1.1.Ghardaïa.....	22
2.3.1.2.Deaf, Algerian Sign Language and education	23
3.Means of communication and strategies for teaching deaf.....	23
3.1.Sign language.....	24

3.2.Oralism or the oral way.....	25
3.3.Total communication	26
Chapter Two : The Case Study	29
1.Geographical situation of Adrar.....	29
2.Methods of research	30
2.1.Research design	30
2.2.Study population	31
2.3.Study location	31
2.4.Sample size	32
2.5.Sampling procedures.....	32
2.6.Research instruments	33
2.7.Data collection procedures.....	33
2.8.Data analysis	34
2.9.Ethical considerations	34
3.Results, analyses, and discussion.....	35
3.1.Training in sign language.....	35
3.2.The different sources used by teachers	37
3.3.Teachers` attitudes towards the sign language used	39
3.4.The curriculum, sign language, and the methods used to teach.....	41
3.5.Barriers and challenges to the teaching of sign language	44
4.Conclusion and recommendations	46

5.Limitations	48
General Conclusion.....	49
References.....	51

List of Tables

Table 1: Teachers` comments on the training in the sign language they have received.....36

Table 2: How teachers acquired knowledge of sign language.....38

List of Figures

Figure 1: The teachers' responses on whether they have received a comprehensive training in sign language or not.....	35
Figure 2: Teachers` attitudes towards sign language.....	39
Figure 4: Pictorial representations of the grammar being taught at the school of hearing- impaired children in Adrar.....	43

General Introduction

Education is an essential right for all children regardless of whether they are hearing individuals, hearing impaired or even blind and deaf . Language teaching is a crucial fact that helps any child to enhance their learning process, linguistic development, and academic performance.

This research deals with the special education system and the curriculum designed to meet the deaf children`s needs. It targets the nature of sign language and the different methods used to teach it. It also asks the question ‘whether the deaf children in the special education receive an excellent educational level or not’. Moreover, it investigates the deaf teachers' ability to teach sign language, their experiences, and the challenges that they might have encountered during their carrier as well .

Therefore, in the theoretical part, we tried to cover the literature review related to the matter. The first chapter deals with the history of sign language around the world, in Africa, in the Arab countries, and particularly in Algeria. It starts at the ancient times up to the present moment. It gives an overview of the survival of sign language since it was considered as a manual representation and a form of communication used by the deaf till it became a natural language that has its linguistic features, structure, and grammar as it seems clear now.

The practical part, however, takes a deep interest in how sign language is taught and what are the necessary types of equipment needed to teach sign language to the deaf and hard of hearing children within the particular education system designed for them. It attempts to figure out the challenges, the outcomes, the effectiveness and the sufficiency of the teaching process adopted to teach the deaf people in general. In the end, the purpose of this study is to cover the weaknesses and to recommend some strategies as a barrier-free to ensure a better education system to teach sign language from both perspectives, the deaf and their teachers.

Education is a legal right and very significant for all children. In any education system, the child must efficiently learn the language that helps him or her understand regardless whether signed or spoken.

Section One: An Overview of Sign Language

In a deaf community, a sign language is a vital form of communication. Despite the difficulties of speaking and learning that deaf people might encounter, they can efficiently and professionally communicate with hearing people, of course, with sign language. The latter, however, has been a central feature of communication throughout the human history. Like any other language, sign language has changed and evolved into the structure that people can see at present since the beginning of human communication.

1. History of sign language and its development in the world

Because most educators, according to El-Rais (as cited in Alamri, 2009), considered sign language as a standard to teach the deaf people, its history and the teaching of the deaf people always go hand in hand; some scholars said that throughout history and at any given place or time around the world there would be a sign language wherever there are deaf people (p. 27). In this regard, Butterworth and Flodin (1992) stated, “it is most likely that the deaf themselves were the ones who created a variety of gestures to communicate.” (p. 6).

1.1. Sign language before documentation

Historically, deaf and hard of hearing people are said to be known since ancient times. Socrates, in one of his earliest written records of a sign language from the fifth century BC says, "If we hadn't a voice or a tongue, and wanted to express things to one another, wouldn't we try to make signs by moving our hands, head, and the rest of our body, just as dumb people do at present?" (Plato, Cooper, & Hutchinson, 1997, p. 139). Besides, Friend (2004) refers to one of Stokoe's pioneering works about human sign language; Stokoe suggests that the roots of a human language of gestures i.e. sign languages have their primates, “It is as old as the race itself, and its earliest history is equally obscure.” (p. 242)

In the Early Islamic era and after it, some famous and illustrious people were deaf (see Debbas, cited in. Alamri, 2009, p. 27). Jaafri Salah illustrates that although they were

deaf, singing and using gestures were not the only means for them to communicate. Those who were educated used writing in Arabic (e.g. they used to write on sand), lip-reading, and a few of them were using signs. The Arabic language influenced those deaf people. They were eloquent in Arabic. Others, in contrary, especially the ones who were not able to write, were using gestures extensively to communicate with others. It was the only way for them to converse. Sure, the different ways the deaf people were using during that era had a reason behind them, a religious purpose that encouraged the deaf to learn Arabic so that they can understand Quran and the teachings of Islam. Hence, Islam emphasises the use of written forms of communication rather than signs. However, if the deaf was not able to write, gestures were permissive to be used (p.c., 23 January 2018).

1.2. Sign language documentation

Fischer (2010) claims that sign languages are rather young and their origins are not completely well-known. Nevertheless, thanks to de L'Épée's achievement in the late eighteenth century, the most primitive sign language's systematic portrayal emerged (p. 445). Abbe de l'Épée invented what was called *methodical signs*. He relied on the latter, in addition to French signs that already existed, to make an effort to symbolise the morphology and grammar of tying the signing to French grammar (cited in. Fischer, 2010, p. 445; Wilcox & Occhino, 2016, para. 16). An example that illustrates Abbe de l'Épée's invention is the French word *aimable* "lovable". "I make the radical sign [love], then the sign for an adjective, but one terminating in -able formed from a verb: To this, I must add the sign for possible or necessary." (Lane, 1980: 122)

Thus, he was the first to teach sign language, and the first to create a school of the deaf in France in the late of 1760s. Stokoe (2005) states that while others attempted to teach a certain number of deaf pupils and, maybe, for nothing but to gain reputation, Abbe de l'Épée devoted his entire life and interest for the sake of deaf people. It is no surprise that he

was a charitable practitioner in the art of teaching deaf people. The doors of his deaf school were open to almost any child born deaf in Europe and France, in particular (p. 5). “Abbe de l’Epée was the first to attempt to learn it (sign language), used it, and made it the medium of instruction for teaching French language and culture to the deaf-mutes of his country.” (Stokoe, 2005, p. 7).

In the United State, the First American School of the Deaf (ASD) established in 1817 in Hartford, Connecticut, after the American Hopkins Gallaudet returned from his travel to France to learn more about deaf education from de l’Epée’s successor and meeting the instructor Laurent Clerc. The school used sign language as a fundamental way to teach deaf people. Hopkins Gallaudet and Hopkins Gallaudet founded the first American Sign Language (ASL) which was the result of a combination of two sign languages, the French as well as the American one. It still exists today. It is taught to students from the elementary school till the high school. Other sign-based residential schools for the deaf began appearing in the United States, and in 1864, Gallaudet University, the first and only accredited university for the deaf, opened its doors. Its first president was Edward Miner Gallaudet, the son of Thomas Hopkins Gallaudet (McCormick, 2013, p. 24; Michelle, 2011, pp. 67–68).

After that, there was a noticeable change and development in sign language and teaching of the deaf people. It, eventually, was reflected on the evolvement of American Sign language and it was documented. Many studies had been done about the American Sign Language and its linguistic system by William Stokoe and some other scholars who took an interest in this field. At Gallaudet University, William Stokoe, who was working as a professor of English, showed interest in the American Sign Language that was taught to deaf students in it. Thanks to the journal of the publication of academic work on ASL and other signed languages, Stokoe was able to give birth to numerous pieces of research about sign languages. One of Stokoe's first works was under the title: “Sign Language Structure” in

1960. It was followed by the publication of “A Dictionary of American Sign Language on Linguistic Principles” which was the first dictionary of ASL, in 1965. Some other researchers appreciated his efforts in the field of educating the deaf and sign language in general. His publication of many worthy books and articles about the American Sign language, its structure and grammar had attracted many scholars. The great progress that had been done by Stokoe, paved the way for a significant linguistic movement among educators of the deaf and the linguistic community. Later, he was known as a scholar who devoted his life for sign language and the deaf people. He carried on writing to the last breath. Gallaudet University Press published his final document "Language in Hand". it was the last work that saw the light after his death (Armstrong, 2000, paras 2-5; Stokoe, Armstrong, Karchmer, & Van Cleve, 2002, pp. 13-46)

2. Sign languages in Africa and the Arab world

The following paragraphs provide a brief history of sign language. It speaks about the transmission of the sign language. It gives shed some light on the current situation of sign languages in the Arab world. Finally, it includes the previous studies that have been done about Arabic Sign languages in the Gulf countries in general and in Algeria in particular.

2.1. The transmission of sign language and its current situation in Africa

The history of sign languages in Africa, in the west of it, in particular, is rather brief. In her chapter of sign languages in West Africa, Nyst (2010) mentions that a little of knowledge is provided about sign languages in the continent of Africa. She argued that studies that deal with sign languages` topics are rare in the matter of distribution, use, and history in African countries. From the one hand, in some African countries, there is a lack of information, whereas information is available for others, on the other hand. However, some accessible information is available about sign languages, their situation, and structure, precisely related to Ghana, Mali, and Nigeria where American Sign Language (ASL)

unquestionably influenced the three sign languages. There is a need for more research efforts concerning the African because as she said, "The sign languages` situation in Africa is as diverse as it is undocumented." (Nyst, 2010, p. 405).

Lule and Wallin carried out another study that deals with sign languages in Africa. They saw a restriction related to the documentation of sign languages in Africa in comparison to the other European countries. Thus, their goal was to give an overview of sign languages in one of the countries in East Africa, Uganda, to provide a clear image for the readers as well as to increase their awareness about the African sign languages.

(Brentari, 2010, p. 113)

In Nigeria, the situation of sign language is not different from what we have already mentioned. Ajavon, a specialist in the field of education of the deaf, and the one who devoted her life working with people of special needs in and outside the school in Nigeria for many years, gain much experience in such field. Therefore, problems of sign languages and deaf education in that area were clearly noticeable, and she was aware of the issues related to that matter. According to her, the deaf people remain ignored as well as marginalised within both their families and communities. Worse than that, persons with special needs were considered as nothing but a form of the divine sentence (Ajavon, 2006, p. 1)

In the light of these studies, the Ugandan Sign Language (USL) has witnessed high achievements by the government, linguistically speaking. *It published a Uganda Sign Language Dictionary*, increased opportunities of deaf education, and used sign languages in TV channels, for example (Brentari, 2010, p. 116). Likewise in Nigeria, the government played a vital role to provide education for the deaf and trained individual teachers as an attempt to meet their needs (Nyst, 2010, p. 2).

In another study of her, Nyst (2015) spoke about Malian Sign Language (LSM) and its situation too. This sign language witnessed a development out of an educational system,

mainly by deaf men. LSM has different varieties. Bamako Sign Language (BSL) is one of them. The latter was highly documented as well as some others (pp. 134, 137). According to Brentari research (2010), “Deaf people need to be supported to maintain and foster the development of sign language and Deaf culture and community.” (p. 139). Nyst (2010) also said that communities of deaf and their language still require more studies in West Africa (p. 432).

2.2. Sign language situation in the Arab world

A little number of studies have been done concerning sign languages in the Arab world. Unlike other sign languages such as American Sign language and the British one, the reader can notice the lack of studies or books that deal with Arabic Sign languages in the Arab world. *Disability in the Ottoman Arab World, 1500-1800*, is a published work by Scalenghe (2014) which deals with sign languages at that period. According to her:

The first stumbling block in the bath in the Arab World is the absence of an Arab word for "disability" until fairly recently. "The disabled" and "disability" as discrete categories are produced of modern Europe. They did not appear in the Arab World until the twentieth century, and it is thus not surprising that current Arabic equivalents of the English words "Disability" (i`āqa) and "disabled" (mu`awwaq; also ma`uq and mu`aq) are of correspondingly recent coinage. (Scalenghe, 2014, p. 1)

In some reviews of Scalenghe`s works, Tsacoyianis argues that despite the significance of *Disability in the Ottoman Arab world, 1500–1800*, Scalenghe limited her work to stable impairments and giving her readers a sightsee of how the life of deaf and mute people could have been like (Tsacoyianis, 2014, p. 312).

Another source of the same nature is Miles (2000). His study deals with sign language during the Ottoman era which was mainly reported by its European visitors. The signing system of mutes was frequently used by hearing people and successive Sultans because of its

popularity. Thus, deaf people at that time were quickly able to express themselves in spite of any difficulty (as cited in Hendriks, 2008, p. 25)

The fact that there is a limited number of studies of sign language in the Arab world is because the Council of Arab Ministers of Social Affairs (CAMSA), a committee within the League of Arab States (LAS), and its effort to standardize an Arab Sign Language (ArSL) for deaf people in the Arab world (Brentari, 2010, p. 433). To have a unified ArSL, in 2008 a dictionary in two editions was published (Ibrahim, Selim, & Zayed, 2017, p. 03).

According to Abdel-Fattah (2005), the Arabic language is diglossic. Though the Arabic language has different vernaculars, Arabs can still understand each other because of one standard Arabic that Arabic consists of Arab scholars thought that sign language, likewise, should comprise of one Arabic Sign Language that can be understood across the Arab world (Abdel-Fattah, 2005, p. 213).

According to Brentari (2010) These attempts by CAMSA to support a standard pan-Arab Sign Language (ArSL) have been ineffective so far. It has been largely met with extensive resistance (p. 433). Abdel-Fattah (as cited in Hendriks, 2008), asserts that deaf people argued that they cannot understand each other. The idea of making a unified ArSL was not informed by linguistic considerations and recognised facts about the sign languages (p. 26)

2.3.Previous studies about Arabic sign languages

Some researchers dealt with a number of Arabic sign languages in the Arab world. A great interest has been noticed in Gulf countries and their sign languages, in particular, Jordanian Sign language.

Hendriks (2008) speaks about the Arabic Sign Language varieties in Jordan as well as he gives an image that illustrates the Jordanian Sign Language (or Lughat al-Ish⁷ ara al-Urdunia, LIU), its sociolinguistic situation, and features. He found that there are many

efforts done by some deaf people to make the Jordanian Sign Language as formal as any other standard spoken language. Accordingly, different meetings were held by this group with other deaf people all around Jordan to make a dictionary which they can include the signs based on their decision and agreement. The dictionary was published by 2008; each entry consists of two to three regional signs that are not similar to each other, whereas some other variants were left out. Though sign languages in Jordan are considered as less standard in comparison to spoken languages by hearing and deaf people, it seems that the latter are proud of their LIU as a real language (Hendriks, 2008, p.18-19)

In Algeria, the situation of sign languages is different. A thesis by Lanesman (2013) entitled: *Algerian Jewish Sign Language: its emergence and survival* is the only significant work the researcher could find about the Algerian sign language, more specifically an Algerian Jewish one. She talks about the northern part of the Sahara desert of Algeria where the Algerian Jewish Sign Language (AJSL) was developed particularly in the region of M`zab in Ghardaia (Lanesman, 2013, p. 10). According to Briggs and Guede, though the exact emergence of AJSL remains vague, sign language was developed in the Jewish quarter, or mellah, of Ghardaia. (as cited in Lanesman, 2013, p. 11).

In this respect, she states that :

AJSL has never had official status, either in Ghardaia or Israel, but ISL does have such a situation within Israel, and ISL resources are available. There was no school for the deaf in Ghardaia, so AJSL has not been used in formal education
(Lanesman, 2013, p. 67)

In here, she makes a comparison about the Israeli Sign Language (ISL) and the Algerian Jewish Sign Language. The latter seems to have less status than the first. It was not much frequently used neither in the Algerian community and Israel nor Ghardaia. As we

have seen, Arabic sign languages still linguistic studies to be documented and used by deaf people like any hearing person uses an Arabic spoken one.

3.Features of sign language

3.1.Nature, meaning and structure of sign Languages

Sign languages can develop within any given deaf community that may exist around the globe. Earlier, some people thought of sign languages to be merely manual representative gestures of spoken languages. Others, thought of sign language as some pointless gestures that the individual can express it in different ways which is not right. Simpson (2011) in his research shows that sign languages are far from being considered as symbolic gestures. However, a sign language is as natural as any other spoken language. In this respect, he states that:

In the last fifty years, there has been substantial research on nearly a hundred different sign languages (see the Hamburg sign language bibliographic website, www.sign-lang.uni-hamburg.de/bibWeb, for a comprehensive listing of sign language research), determining that the sign languages of Deaf communities ... throughout the world are complex natural human languages, distinct from gesture and also from spoken languages. (p. 362)

That is, sign language, for example, ASL (American Sign Language), is indeed a language with its grammar and vocabulary. It is entirely independent of any spoken language, English for instance. As mentioned above, the grammar and vocabulary that sign languages have paved the way for signers to use different tenses while communicating i.e. they can refer to past, present, or future activities (Johnston & Schembri, 2007); "regardless the need to elaborate acting out of activities to communicate basic information" (p. 24). Through using sign language, deaf people can deliver a clear message and communicate and to describe actions of who did what to whom in a very rapid way and efficiently as well.

First, an answer to the question 'what is a language' can be given in brief through the summary provided by the researchers Baker and Cokely (1980). They found that a language is mainly a complex system used for the purpose of communication. It is a complex system that has 'a vocabulary of conventional symbols and grammatical rules' which is shared by members of any given community and transmitted from one generation to another. This shared system changes through time, and it is used to convey a message that expresses the individual's thoughts, feelings, and intentions (cited in Johnston & Schembri, 2007, p. 01)

So in the light of what we have seen above, we can conclude that sign languages are not literal translations of spoken languages. The grammars of both sign and spoken languages are distinctly. In fact, a sign language follows its structure. To further illustrate this structural distinction, an instruction of "turn right at the traffic light" in Sign language would simply be "Traffic Light" (one sign) followed by "Turn Right" one sign again, for example. Though the signs used as an equivalence to the instruction are no more than two, they reduce the six English words. It is a completely different structure with the information needed to provide a full understanding (Mulonda, 2013, p. 12).

3.2.Linguistic features of sign language

3.2.1.Sign languages` phonology, morphology and syntax

Simpson (2011) argues that a sign language has its phonology, morphology, and syntax. In this regard, linguistically speaking, he gives much credit to one of Stokeo's pioneering efforts on American Sign Language (1960). Simpson says that:

Linguists have seen signs as consisting of simultaneous combinations of handshape configuration, a location where the sign is articulated and movement – either a path through signing space or an internal movement of the joints in the hand. Each is understood to be a part of the phonology because changing one of these parameters can create a minimal pair. (Simpson, 2011, pp. 360-361).

A good case to illustrate what is said above is the differences that can be found in British Sign Language. Woll and Sutton-Spence (2011, p. 370) compared the following pairs of words AFTERNOON and ORDER; AFTERNOON and NAME; and AFTERNOON and TWO-HUNDRED differ in diverse ways. The handshape of The first pair is the only difference they have; the second pair differ only in location; while the last pair`s difference is in the movement alone. That is, each of the previous discrepancies is considered as a minimal pair; a simple change alters the whole meaning, phonologically speaking (see Fischer and Hulst as cited in. Marschark and Spencer (2011: 361) for further well-explained details and examples about sign Language structures and features).

3.2.2.Productivity, displacement, interchangeability and learn ability features

Like any other human language, sign language has different features. Djamil (cited in Alamri, 2009, pp. 47–48), mentions some of the linguistic features that both sign and spoken languages have in common, namely are productivity; displacement; interchangeability and learnability. Productivity is a linguistic feature that signers can use to express and communicate in different aspects of time and place to talk about past and plans, for example. Displacement means that a deaf person can play the role of the addresser as well as the addressee and vice versa, simultaneously. That is when a deaf uses sign language to send a message to another deaf or sign language user. He can receive from the latter without any difficulty since both of the sender, and the receiver are using the same linguistic system (i.e. sign language), and they are both able to produce an infinite number of instructions or sentence when communicating. Therefore, the roles are interchangeable to exchange a message that is entirely understandable and clear, of course. Interchangeability, moreover, is a feature that allows any individual regardless sex, age and whether being deaf or not, to acquire sign language like any other language acquisition, provided that this individual is healthy and learns about the different aspects of that language in a very suitable environment

which helps to make the acquisition process as easy, sufficient, and effective as possible, for sure.

3.2.3.Linguistic research on Arabic sign languages` features

Sign language`s features are far away to be condensed neither limited to the ones discussed above. There are many of aspects that need to be tackled in this respect especially when it comes to Arabic Sign Languages. In Arabic Deaf Sign Language, Turki (2016, 2017) conducted two research studies about structure (2016) and phonology (2017). The first one was entitled: *A Study of Content Analysis of the First and Second Arabic Sign Dictionaries for the Deaf Syntactic (Structural) System in Arabic Deaf Sign Language*. While the second one was entitled: *A Study of Content Analysis of the First and Second Arabic Sign Dictionaries for the Deaf Phonology (Phonological) System in Arabic Deaf Sign Language*. It was an effort made by him to grasp and explain the Arabic Sign Languages` feature based on the study of such Arabic sign language dictionaries.

El-raï (2007) as cited in (Alamri, 2009, p. 34), says that more studies of such linguistic features are critical to understand how roles are interchangeable, to distinguish between the noun and the verb or how the appropriate verb can be chosen (like send and receive); to explain how questions can be formed, etc. For this reason, he believes that without such illustrations, structures and grammar, the individual may neither not be able to use nor to translate sign language to other languages..

3.3.Linguistic variation in sign languages

3.3.1.Spoken and sign languages` number around the world

Before we talk about the linguistic difference in sign language, probably we need first to mention how many signed languages are in existence. Spoken languages are numerous across the world. Some sources quote and suggest an approximate number of spoken language.

An example is David Crystal (1997) (as cited in Lucas, 2001: 11) he claims 6,000 as a total number which should be “a safe estimate for the 1990s”. As for sign languages, they are roughly neglected to be counted. The reason behind this, as Lucas (2001: 12) argues, is for two facts. On the one hand, sign language has emerged recently; they are still new languages. On the other hand sign languages are nothing but new forms of spoken languages - the picture that people mistakenly always have,

Despite the two facts, the Ethnologue Database as mentioned by Lucas (2001: 13), reflects a better image. It includes 103 of known sign languages in its list. Though this number may seem to underestimate sign languages in comparison to spoken ones, it does remain a significant number to work with.

3.3.2. Sign languages variation

Until relatively recently, in the “modern mode” according to Wall and Mas (2003), researchers on sign language focused in the different between the latter and spoken languages. That is, in modern and post-modern periods of time, comparisons of sign languages to spoken ones took much of interest, linguistically speaking. However, such studies among signed language were limited and somewhat rare. Erroneously, sign languages were observed to be more homogenous from the scientific viewpoint. This hypothesis was, later, proved wrong when more sign language has been investigated (cited in Perniss, Pfau, and Steinbach, 2007, p. 7)

3.3.3. Previous studies of variation in American Sign Language

When it comes to signing variation, ASL would be considered as a relevant example to mention. ASL was studied by some scholars, but it was limited to a small number of sign language users. Nevertheless and for sure, recently, signers started to have a continuous awareness of the independence of their sign languages as well as the sociolinguistic variation in ASL. This does not mean that all aspects of variation are explored. In linguistic structure,

for example, a significant intention is on lexical variation, phonological variation, and very few of morphological or syntactic variation. Whereas, in social factors, the focus is on regional variation regarding less intention to ethnicity, age, gender, etc. For that reason, other aspects of change, however, have yet need, unavoidably, see the sights (Lucas, 2001, p 77).

For furthermore studies for better understanding of different variation (e.g. phonological in handshape and location, grammatical, and syntactic variations) in ASL, see (Lucas, 2001, pp. 81–158; Lucas, Bayley, & Valli, 2003, pp. 17–46). Equally, There is a different study of variation in ASL. It considers the fingerspelling variation which, in many often, was overlooked (Lucas, 2002, pp. 3,7).

3.3.4.Previous studies of variation in Arabic sign languages

Similar studies were done about Arab sign languages from that perspective. Abdel-Fattah (2005) mentions that there are much different Arabic sign languages developed in some Arab countries (e.g. Jordanian, Palestinian, Egyptian, Kuwaiti, and Libyan). For that reason, Abdel-Fattah (2005) tries through his work to compare some aspects of specific sign languages as well as discussing some of their linguistic features just like any given spoken language. (p. 213)

In this respect, Hendriks (2008) shows much interest to sign language varieties in Jordan and the Middle East based on lexical comparisons as a data collection and a methodology.

Section Two: Deaf people, Sign language, and Education

1. Deafness and the nature of deaf people

Before to address the needs of deaf students learning sign language inclusive educational settings, it is significant to be aware of who is a deaf person and what is meant by deafness. To answer these questions, we must take into account that there are two ways of looking at deafness. According to some scholars (e.g. Knight & Swanwick, 1999, p. 22), the aspect of deafness can be considered as a medical model or through a medical perspective or, linguistically speaking, from a language perspective.

1.1. The medical model of deafness

From the medical model point of view, deafness is considered as a disability that needs several special tests through which a child's degree of deafness can be diagnosed. Audiological descriptors are the categories of which four different degrees of deafness are classified. That is, an individual can be categorised as mildly, moderately, severely, or profoundly deaf. The first two categories are referred to as 'partially' deaf while The last two categories are referred to as 'profoundly' deaf (Knight & Swanwick, 1999, p.22).

In such medical point of view, deafness is more likely to be defined and seen as an illness or disability. From that perspective, people refer to a child, who falls into one of the four categories of deafness, as being an abnormal individual unlike any other hearing person who is seen as being a normal individual (El-Rais, 2006, as cited in. (Alamri, 2009, p. 13).

Since this way describes deafness as a medical issue in the first place, regardless the degrees of deafness, some solutions to solve this problem are more likely to emphasise the use of the hearing aids as well providing a suitable treatment. Therefore, the focus is placed on the oral way and the medical care (appropriate implications) to decrease the degree of deafness rather than learning a sign language as means of communication or an equivalence

to any other spoken language used by hearing people (El-Rais, 2006 as cited in. Amri, 2009, pp. 13-14; Knight & Swanwick, 1999, p. 22)

1.2.The linguistics model of deafness

Unlike the medical model, the linguistic model defines deafness differently. The focus here, as Knight & Swanwick (1999, p. 23) says: "is on the linguistic needs of a deaf child." El-Rais mentions, some viewers look at deafness as a feature that differentiates a normal deaf person to be unique in comparison to any hearing normal individual. Although deaf people are considered as a minority, they have their sign language comparable to any spoken one. Hence, their language is natural and has its own culture and supposed to be as deaf people`s mother tongue (cited in. Amri, 2009: 14).

For that reason, Knight and Swanwick (1999: 23) gave more consideration to language whether spoken or signed and how a deaf individual can develop it taking into account the age and general development. The hearing status of a deaf child`s family, society, environment, and economy are, moreover, some of the factors that may affect a deaf child`s linguistic development. It is up to deaf children to choose the appropriate language that satisfies their needs and may be readily acquired based on their age. That is, the choice is according to a child`s number one or favoured language in general. Since the indicator of deafness degree is significant, children who are mildly or moderately or less severely deaf (potentially deaf) may and acceptably acquire a spoken language as their first or preferred language to communicate. In contrary, deaf children whose deafness fall into the more severe degree or profoundly deaf are more expected to develop a sign language as their favourite means of contact. On the light of the different models that have been already shown, the aspect of deafness is considered as a medical model when deaf individuals use implication aids (hearing aids) to make the effect of deafness degree as less as it is possible and to develop a spoken language as their preferred language to communicate is a one way. Others,

who preferred to acquire a sign language as their mother tongue in addition to another spoken language (e.g. English, or the Algerian language spoken in Algeria) as their second language is the other way of looking at deafness as 'linguistic model' that replaces the medical model regarding the audiological descriptors of deafness especially profoundly ones.

In general, the intention of looking at deafness as a medical perspective is not to mention what is meant by deafness and to make a clear understanding of its degrees only. Instead, first and foremost, it is about the language that deaf children with such categories of deafness need and preferred to communicate and not to be marginalised.

2. Deaf children ability and the need to develop a sign language

2.1. The use of sign language versus the medical treatments

Apart from the categories of deafness, the latter does not mean dumbness as it was widely believed. Deaf people as Conrad showed, can perform equality as any other hearing person regarding cognitive capacity and coding as well. There are no differences and deafness is far away to be considered as an excluding cause (cited in. Kyle, 1989, p. 114). In addition, Shakespeare and Watson (2002) claim that "there is no qualitative difference between disabled and nondisabled people because we are all impaired in some form, some more than others." (quoted in. McIlroy & Storbeck, 2011, p. 495).

Children with hearing loss tend to use the different ways of communication, i.e. the verbal and non-verbal ones. It is up to the deaf child's hearing capacity and the use of the percentage of the remaining hearing he still has in addition to his age, the way of communication that his family prefer to use, and the training he may get. This, however, does not mean that deaf people have no language issues. They do have, especially when it comes to the spoken language. Whether they use hearing aids or not, they will still have problems to receive a good understanding of a speech since the latter is a process of making

sounds and arrange it in a specific verbal order (Colarusso & O'Rourke, 2010, p. 166; Eisner, 2012, p. 4)

From a linguistic point of view, deaf people need to learn sign language rather than focusing on medical treatment. Not to consider a deaf student to be "dumped". According to Innes (1994), their language, communication, and social needs cannot be met at public schools (cited in. Reed, Antia, & Kreimeyer, 2008, p. 1). That`s why, as Shantha Rau Barriga, disability rights director at Human Rights Watch, says: "sign language is critical for deaf people to be able to communicate, express themselves, and learn." Additions he argues: "depriving deaf people of the opportunity to learn sign language can condemn them to devastating isolation." (reported in. Manuel Poggio, 2013, para. 3).

2.2.Special education and deaf children

2.2.1.The emergence of deaf education in general

The beginning was until 1750 when special deaf education gave birth. Deaf history gives credit to Abbé Charles-Michel de l'Épée. The pioneer establisher of organisation for deaf people. Later, twenty-one deaf schools were established by him. In these schools, an Old French Sign Language (known as the first standard sign language) spread throughout Europe as more students were educated. Sign language was considered as the natural language for the deaf. For these reasons and because of his effort, De l'Épée was recognised as the "Father of the Deaf". Unlike him, the "Father of Oralism" Samuel Heinicke, the German instructor, supported using speech and speech reading to teach Deaf. The oralism method (or philosophy) was an alternative to use sign language (Michelle, 2011, pp. 66–67)

2.2.2.The status of sign language and deaf special education

Despite the fact that hearing technologies are improved, and that sign language (e.g. ASL) may witness kinds of decline in the future, sign languages still have their popular position especially among parents who want and encourage their children to acquire sign.

ASL in the United States, now regarded as a world language and the third most frequently used. It has many dialects and grammatical structures. Jamie Berke, a graduate of Gallaudet University, ensures that among hearing students, ASL is being taken as a foreign language to be learnt (Donaldson James & Huang, 2006, paras 18–19).

In 2009-2010, Gallaudet Research Institute's Annual Survey of Deaf and Hard of Hearing Children and Youth, as cited in Eisner (2012: 7), reported an approximate number of 38,000 deaf and hard of hearing students. Nearly 60 percent of the total number of Deaf and hard of hearing attended regular schools of hearing students. 17 percent of them attended individual classrooms within the regular education setting.

Educational success, as has been demonstrated by some studies, requires an appropriate academic and linguistic accommodations in addition to providing the environment needed in the classroom (La Bue, 1995, p. 166). Therefore, it is very important for educators and professionals who work with deaf individuals to take into their account the implications of language and culture (or what we refer to as languaculture) and "how this impacts the construction of a deaf person's experience and identity" (Zimmerman & Horejes, n.d., p. 1). To make the learning process of students in special education beneficial as much as it is possible to do the best to educate students who are deaf (Cawthon, 2006, p. 1).

2.3. An overview of special education around the world

In Pakistan, the history of deaf education does not seem to be old. It dates back to the time of the country's independence; there were three deaf schools at that time (Akram & Bashir, 2012, p. 34). However, according to Khan (1989), after Pakistan took its independence, the government of the country had too much interest in the special education (established schools and approved policy). Moreover, the government provided in-service training to teachers of special schools by creating the National Institute of Special Education (cited in. Akram & Bashir, 2012, p. 34).

Unlike hearing children, deaf ones are educated since the beginning of a separate school. They are disconnected from the other hearing children. The reason behind this segregation of deaf has several facts. First, it is because of the lack of policy. Second, teaching both hearing and deaf in the same school may cause an adverse effect. That is, the performance of hearing children will be reduced in the presence of deaf children as parents and teachers believe. Not only this, parents and teachers believed that deaf children have low abilities for learning (Akram & Bashir, 2012, p. 35).

2.3.1. Deaf and education in Algeria

The beginning of the deaf education history requires more research in Algeria. Conceivably, the only source that sheds light on it is Lanesman. She has three different works. The first was by her and Meir (2012b) entitled: *The survival of Algerian Jewish Sign Language alongside Israeli Sign Language in Israel. Algerian Jewish Sign Language: A sociolinguistic sketch* is another work of Lanesman and Meir (2012a). The last work of her was in (2013) under the title: *Algerian Jewish Sign language: its emergence and survival*. By giving credits to her outstanding efforts, we can draw a picture, at least to some extent, about deaf people, sign language, and their education in Algeria, mainly in Ghardaia.

2.3.1.1. Ghardaïa

The history of the capital of M'zab Oasis, Ghardia, dates back to the 11th century when it was said to be found. In Algeria, the northern Sahara Desert region is the exact location of it. It lies along the left bank of the Wadi Mzab in the north of Sahara (desert). Its name derives from the well-known story that Ghardaia was built around the cave (ghār). Where, a female saint Daïa, supposedly, lived in (M'zabite women still respect the cave). Ghardaia name is a combination of the two words (i.e. ghār and Daïa) ('Ghardaïa, Algeria', 2012; Lanesman & Meir, 2012a, p. 361).

2.3.1.2. Deaf, Algerian Sign Language and education

According to Briggs and Guede (1964:12), 2.5% of the population was deaf in the Jewish community of Ghardaia. The endogamous marriage patterns were the reason behind the birth of deaf individuals in the community. Approximately, each lived in this community had at least one deaf-mute among his close relatives, family, or neighbour. Everyone was fluent in sign language. So, It was in the Jewish quarter, or mellah, of Ghardaia, that a sign language developed (Lanesman, 2013, p. 12).

In her research, nothing was mention by Sara Lanesman related to deaf education neither the special school in Ghardaia. Rather, she mentioned the different ways the deaf and hearing people acquired sign language at that time. First, for children who were born into families with deaf adults acquired the sign language from their deaf family members. Second, the deaf whom were born into hearing families learned it from other deaf adults, their deaf neighbours, or other hearing families who mastered sign language fluently. Third, people who married to deaf were likely acquired sign language from their spouses. In general, AJSL was frequently used within the community of Jewish in Ghardaia; thus, it was commonly used, and sign language acquisition did not seem to be problematic at all.

(Lanesman, 2013, p. 45)

3.Means of communication and strategies for teaching deaf

Being unable to hear and an unable to speak, either, may affect the individual`s communication skills. It may make it difficult to exchange a few words with others. However, deaf and hard of hearing are still able to be in touch with others through different ways. Though these means may not be integrated, it helps the deaf and hard of hearing to communicate in a way or another, to such an extent.

3.1. Sign language

Sign language is one of the methods of communication, which is defined as a set of visual symbols or gestures that are used in a very systematic way for words, concepts or ideas of a language. They are expressed through sign language by representing a relationship between the sign and its meaning in spoken language (Hanafy & El-Saadoun, 2014, p. 75).

Allen and Anderson (2010) have found that such sign language is seen to take a crucial part in the deaf`s special schools (Shaver, Marschark, Newman, & Marder, 2014). This language has supporters and opponents. It is the most common and privileged way used by deaf (Altwaijri, 2014, p. 15). In here, deaf people can have a unique education that the aim of it is to integrate deaf individuals into humanity utilizing language. As a consequence, they can obtain their rescue and not be marginalised (Fernandez-Viader, 2004).

In many educational contexts, an oral method was always used with deaf pupils. A teacher used spoken language while the deaf pupils were obliged to do lipread and to respond in spoken language. Astonishingly, neither teachers were allowed to use sign language nor pupils were given a chance to interact with it during classes. Pupils, though, were signing during breaks (Rydberg, Gellerstedt, & Danermark, 2009). As we can see, to survive, sign language as well as deaf people and those who use it, have been continuously fighting (R. Penilla & Lee Taylor, n.d., para. 2); "Some religious groups wanted to save Deaf people, while other groups wanted to teach them" (para. 3). But, Lehfeltdt argued, "No one person speaks for the deaf" (Donaldson James & Huang, 2006, para. 46). Deaf children have the right to equal education. According to Barriga, the ability to use sign language gives strength for deaf people to be independent, to be able to communicate quickly, to get a job and to participate in both communities and family life (Manuel Poggio, 2013, para. 9).

Sign language has its advantages and this advantages. On the one hand, Hanafy and El-Saadoun (2014) mentioned that sign language is the alternative solution for them in the

light of spoken language's absence. It fits their needs to communicate and express themselves to others, freely. That's why, deaf people seem to be used to accept it, learn it, and use it. Not only deaf people, hearing people may use sign language in some situations, too (p. 25).

Disadvantages of sign language, on the other hand, can be related to the fact that it affects the use of spoken language. A sign language requires a clear face-to-face communication between the addresser and the addressee to deliver a message. The oral way of communication is unlike the sign one, and the latter may seem more difficult especially when taking into account the fact that sign language is not unified. This may cause a misunderstanding of some of its diverse vocabularies (Altwaijri, 2014, p. 16).

3.2.Oralism or the oral way

It may also be known as lip reading or audio training. Oralism depends on the ability to speak. The oral communication helps deaf people to contact with the others through the lip reading or through relying on speech, and the hearing ability of the deaf person might still have (Altwaijri, 2014, p. 16).

This method tends to train the hearing impaired individuals to be able to improve their both listening skill and lip reading to enable them to use the spoken language as a means of communication with others (Ron and Colleen, 1999, p. 166).

According to Altwaijri (2014), Oralism has its supporters minority of them are deaf. It requires too much of training and attention. Hence, It may seem too complicated for the deaf to get used to using it. Furthermore, The oral communication can be ineffective especially when communicating with someone who has different spoken language and culture from the deaf person addressing him (16).

Though oralism, in the 20th century, has been witnessed a remarkable influence as a method to teach the deaf in America, for instance (Monaghan, Nakamura, Schmaling, &

Turner, 2003, p. 9), there was a great debate between hearing and deaf people concerning the use of manualism and oralism method. The latter was supported to be used among hearing people. In contrary, the community of deaf wanted manualism, i.e. to use sign language as a means of communication instead of oralism, this reflects what has been already mentioned that among those who supported the use of oralism deaf people were only a minority ('Oralism', n.d., para. 3).

John Bosco Conama, a member of the deaf community and secretary of the Irish Deaf Society, as reported to the Irish Times, instead of to rely on sign language only, oralism can also be used by deaf people as means of communication. Teaching the oral method for deaf may pave the way for them to possess a high functional level of literacy. Moreover, it may allow them to be able to maintain the necessary confidence to integrate as much as possible into society as well ('Oralism and Deaf People', 2002, paras 3–4).

3.3.Total communication

It dates back to 1967s where the credits go to the Deaf educator, Roy Holcomb, who was the pioneer introducer of it (Ayres, 2004, p. 81). First, it is considered as a philosophy rather than an approach or a means of communication. This philosophy intends to make use of different ways mentioned above (i.e. sign language and oralism) or whatever needed to promote a successful communication. The TC (Total Communication) allows teachers of deaf to use all the different strategies (such as signed, oral, auditory, written and visual aids) needed to communicate with a deaf child at any given phase or situation (Alamri, 2009, p. 36; Marschark, Spencer, & Nathan, 2010, p. 296).

Hanafy and El-Saadoun (2014) Defined the Total Communication as the right of each deaf student to maintain whatever form of communication was most suitable to learn. It

gives the deaf the chance to acquire the skills of communication, improve the language, and to be able to interact as early as possible in his life efficiently (Alamri, 2009, p. 36).

Therefore, as Spencer and Nathan (2010) further illustrate, it is the deaf child's choice depending on his abilities and needs to communicate (p. 296).

The Total Communication philosophy was highly used and spread in the education of deaf and hearing impairments (e.g. United Kingdom, France, China, Malaysia, Singapore, and some other countries around the world) in order to increase the Deaf's literacy level as well as their educational performance (Rotatori, Obiakor, & Bakken, 2011, p. 190). During the 1970s and 1980s, this philosophy was noticeably supported to be used in deaf schools and programs. Whereas at present, several discussions seem to take place highlighting a question mark of which one is better to be used in the educational arena, the Total Communication programs or bilingual-bicultural? (Al-Taani, 2017, p. 72; 'Total Communication', n.d., para. 3).

Individuals are categorised into three groups when it comes to hearing ability. The hearing degree of ordinary people (hearing individuals) is different from one person to another. The individual can communicate with others around him without difficulty and can perform normal things that need hearing ability without help through any form of a spoken language. Hard of hearing individual is he who has a mild-to-moderate hearing loss. He has a weak ability to listen and understand speech. However, a hard of hearing individual can speak and communicate depending on the degree of the hearing loss he has. He may communicate through sign language, spoken language, or both. Some hard of hearing people tend to continue using spoken language as their first language, while others, in contrary, prefer to use sign language as supplementary support ('DeafTEC', n.d., para. 1; 'Hard of Hearing (HoH) Definition', n.d., paras 1,4)

The term Deaf refers to people with hearing loss who mainly diagnosed to have a profound hearing loss. It involves very little or no hearing ('WHO', 2018, para. 5). It was understood that sign language was considered as the deaf children`s first language. It is fundamental for their cognitive and linguistic development. The deaf children`s second language, however, is the language spoken by the majority of the country (Bisol, Valentini, Simioni, & Zanchin, 2010, p. 3)

Knoors and Marschark (2014), as cited in (Namirembe, Philip, Mkama, & Kilave, n.d., p. 1), stated that unlike hearing peers, deaf and hard of hearing individuals are students with academic needs and strength. Such needs according to Forman, can be met in an inclusive education, where a specific education in age-appropriate regular classes is provided to students with special needs in local schools according to their unique educational needs (cited in. Safder, Akhtar, Fatima, & Malik, 2012, p. 130).

Chapter Two : The Case Study

This study aims to investigate the special educational system used to teach sign language for deaf and hard of hearing individuals in Adrar. In addition to that, it also explores the current situation of teaching sign language, challenges, and obstacles encountered by teachers using sign language with deaf and hard of hearing children inside the deaf school. This study also attempts to find out the effectiveness of the deaf special education from the perspective of deaf pupils, to figure out to what extent they are satisfied, to know if they face any problems during their learning process and if the educational level meets their needs or not.

1.Geographical situation of Adrar

For this study, a brief background on Adrar is provided. Found on central Mauritanian in western Africa; Adrar exists on the heart of Sahara (Aakanksha, 2014; Bonte, 1981, p. 37; see *L'émirat de l'Adrar mauritanien: arîm, compétition et protection dans une société tribale saharienne*; Bonte, 2008). Adrar, formerly Timmi, is the largest of the Touat oasis group in southwestern Algeria. There are three natural and cultural regions: Touat (Adrar, Zaouiet Kounta), Gourara (Aougrout, Timimoune) and Tidikelt (Aoulef), and 299 ksour ('Adrar in Algeria', n.d.). It is bordered by five other wilayas (see Figure 1): to the west by Tindouf; to the north by Béchar and El Bayad; to the south Ghardaïa and Tamanrasset from the East. Mauritania and Mali from the South (see Jaafri, 2011, p. 55). Adrar's historical name has different stories when it comes to its origins (Salemi, 2012, pp. 11–15). The modern name Adrar derives from the Berber word "mountain".

2.Methods of research

2.1.Research design

This research is a case study. Zainal (2007, pp. 1–2), defines case study, within a specific context, as a process that enables a researcher to examine the data directly; in an in-depth investigation of an individual, group, institution or phenomenon. Case studies as Burns (2000) reminds us, are based on the premise that a case can be found that is typical of many other cases (cited in. Elena & Georgeta, 2016, p. 117).

This study falls into a case study design. It makes an effort to analyse in detail the current situation of sign language and how it is being taught to deaf and hard of hearing pupils within the special education in one selected school of the deaf in Adrar. Also, the reason why this study fits into the case study design is that it intends to describe the teachers and specialists` experiences inside the school to find the challenges and obstacles encountered by them during their career. Not only teachers and specialists, but it also aims to find out the satisfaction of deaf pupils and the quality of services as well as the effectiveness of lectures provided to them during their process of learning inside the special school which are designed to meet their needs.

For this case study, both qualitative and quantitative approaches are used. The first is used to give a detailed analysis of the views and explanations of the respondents concerning sign language teaching, on the one hand. And on the other hand, the second approach is used (e.g. percentages and frequencies) for the sake of to summarize the views of deaf pupils as well as their teachers in the deaf school where our case study is carried out.

2.2.Study population

The study targeted teachers, pupils, and some other specialists in the field of deaf education, as for teachers, because they are the experienced and professionals in the field of teaching deaf children. They must be aware of their pupils knowledge, language progression, and the process of learning. They can determine the challenges they might have encountered as well as the solutions needed to overcome such barriers to be able to teach them in better conditions as possible as it should be. Hence, as a result, teachers in special deaf education will be able to achieve better performance of teaching in suitable conditions that the deaf children need and to pave them the way to live as any hearing children inside regular schools.

Pupils, on the other hand, come in the first place. They play a central role in special education. They are the ones whom the purpose of inclusive education does exist. Because of them, the researcher was able to shed, to some extent, some light on the benefit of such education and the effectiveness of it on their language progression, learning process, and their life in general. Since they are presently experiencing the process of learning used inside the school, they might have the clear awareness of different difficulties and obstacles they might have come across while learning in such special educational system. They may have some views, strategies, or solutions which may help them to enhance their academic performance.

2.3.Study location

This study was accomplished in the School of Hearing Impaired Children in Adrar. It is the only school that offers a special education system for the deaf in Adrar. This school is located in Hai Graoui, Adrar. It was established by Decree No. 87 of 259 on 01/12/1987. However, the real and the official start of this school was until 1989. It was established to meet the needs of hearing-impaired children.

According to the education adviser, the name of this deaf school has witnessed several changes. At first, this school was given the name of the deaf and mute youth`s school.

Later on, it was changed to be named: the school of deaf and mute children. Finally, its name was modified to a school of hearing impaired children, which is known to be the current fixed name for it. It is a boarding school. It provides board and lodging to some students but allows others to attend during the day only, like a day school.

2.4. Sample size

The only school for the deaf in Adrar is the one that is located in Hai Graoui as the researcher has already mentioned. It is the only deaf school possible where to carry out this case study. It comprised eight classes. The total number of teachers is twenty. The teachers have different grades: three males of teachers are professional specialized educators; two are teachers of special education; four teachers (two males and two females) are specialized educators; the rest of the total number of teachers are eight females and three males working as trainees to be prepared and hired as teachers of special education, later on, their number is eleven. Out of the twenty teachers, only ten teachers of them were interviewed.

As far as pupils are concerned, eight of them were randomly chosen. One of each grade. The sample also included two other individuals to be interviewed by the researcher., namely Mr.Bensaleh a speech therapy specialist and Mr.Rachid a pedagogical advisor. The sample was small in number and limited because there are no other deaf schools in Adrar to have large numbers of teachers, pupils, and other specialised in deaf education.

2.5. Sampling procedures

For this study, the researcher used the two types of sample. That is, he used purposive and simple random sampling. According to Davies et al. (2011), the purposive sample (sometimes referred to as probability) is used when the sample chosen by the researcher is assumed to represent the whole population from which the sample derives and thus the results found can be generalisable as a whole to the population, as if each member of its units has taken part to participate.

The purposive sampling (non-probability) differs entirely from the previous one. Its results cannot be generalised. Unlike random sample, it focuses on precise groups or classes which have different characteristics (e.g. gender, academic grade) (p. 72). After having this in mind, the study targeted teachers who are the curriculum implementers and the two specialists figures in the school of hearing-impaired children. It was based on their experience and the different academic grades they have. Unlike teachers, pupils, who are the recipients of education, were randomly sampled.

2.6. Research instruments

The study did not use questionnaires. Instead, it used interviews (see the appendices B and C) and observations. Teachers, therapists, and pedagogical advisors were all interviewed. The interviews were preferred because the sample was small and limited as well. The deaf pupils were also interviewed by the help of interview guides because the researcher was not able to understand the sign language they were using. To capture some relevant information related to the study, some observations were made in some different classes. In addition to that and to get information on the teaching of sign language in the schools, the study relied on some relevant documents such as the dictionary of Algerian signs, the school programs, and timetables as sources of information and collecting data related to the case study.

2.7. Data collection procedures

Interviews and classroom direct observation were the ways used to collect data for this study. The first step was to seek permission from the supervisor and the English department of the University of Adrar. Immediately after that, the researcher moved to the school of hearing-impaired children and met the head of the school personally and sought permission to carry out the study. Once the permission was awarded, the researcher met the therapist, pedagogical advisor, and teachers to introduce himself and to inform them about the purpose of his case study.

Meanwhile, the researcher started taking some observations through attending different classes with deaf pupils and interviewed the latter whenever possible. In such a way, gathering information throughout the observations was an attempt to compare, collect, and capture any other data needed for the study as far as possible and in order not to miss any information that might not have been provided in the interviews.

2.8.Data analysis

To make sense of the data collected through interviews and observations, the researcher the needed instruments were gathered for data coding and subsequent analysis. The data for this study was analyzed through detailed description and explanations which were being given by the respondents. To establish patterns, trends and relationships from the information gathered and to make the collected data easily interpreted by many people, simple basic quantitative statistical techniques such as frequencies, percentages, and tables were used.

2.9.Ethical considerations

In taking into consideration matters of ethics, a request was written and signed by the supervisor. After that, a letter from the English department of the University of Ahmed Draia was obtained to carry out the research (see the appendix A). The permission was sought from the head of the school of hearing impaired because it was a residential school where most pupils were living in boarding. They were under the custody of the schools. The researcher also gave details about the principle of his study to all sampled individuals. All participants were engaged in the study by their own will, and their confidentiality was assured and respected by the researcher, of course.

3.Results, analyses, and discussion

3.1.Training in sign Language

The researcher wanted to know if teachers of deaf and hard of hearing in this school received training in sign language or not. Moreover, to what extent, from their perspective, the training was comprehensive. The answer to this question is represented in figure 1 below.

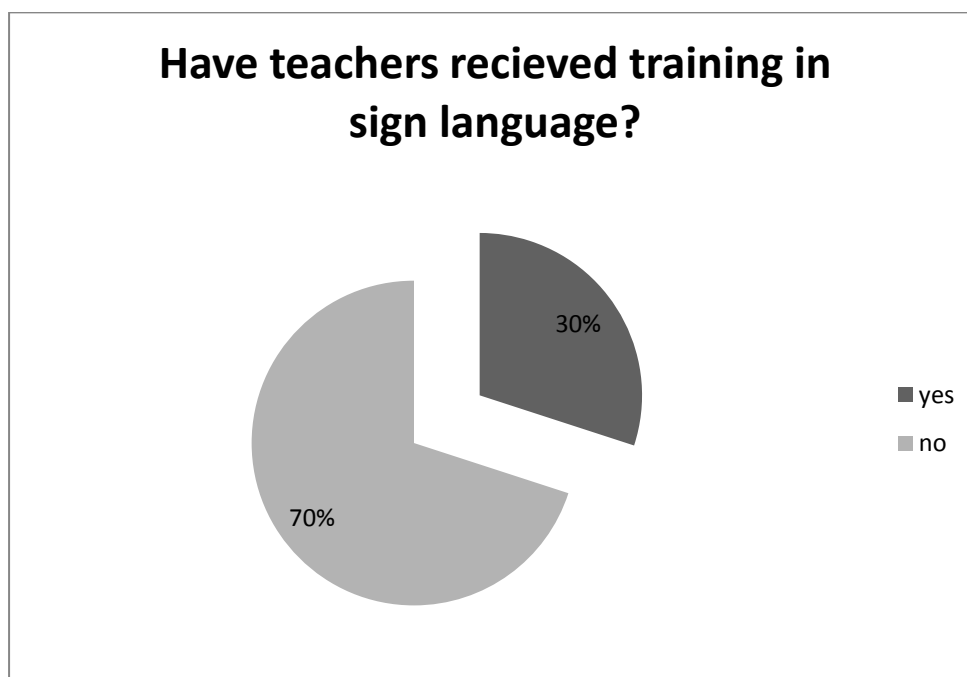


Figure 1. The teachers' responses on whether they have received a comprehensive training in sign language or not.

The result showed that out of the ten sampled teachers, only three of them said that they received a comprehensive training in sign language. Their percentage is 30 percent. On the other hand, the other 70 percent of the respondents said that they did not receive comprehensive training. Their number is 7 out of 10.

The study revealed that the majority (70 %) of teachers in this school believed that they had no relevant training or experience in sign language. Whereas the other teachers who represent the minority (30 %) of teachers, felt satisfaction and that they had had a comprehensive training in sign language in general. This case study results are similar to the

ones found by Sheehy and Budiyanto (2014). According to them, 67 percent received no training in sign language (p. 7).

As an attempt to know the reasons behind why the majority of teachers felt that they did receive no adequate training in Sign language, the researcher requested them to kindly illustrate their judgments by providing some point of views, arguments, or comments related to the matter. Some of the respondents` answers are shown in the following table 1.

Number	Arguments and comments
Case 1	We have received only a few training courses. According to me, it was not enough to grasp all that is need about sign language.
Case 2	Unlike the theoretical part, the practical part is different...it is much complex than it may have been. Reality is not like what one has expected.
Case 3	I am a graduate student with a degree in sociology. I received one-course training after had participated and passed the contest. The training was mainly about the Alphabets of sign language. After that starting to deal with the deaf, I felt a need for more training.
Case 4	Truth to be told, I would not have been able to do any progress in the field of teaching deaf children if one had relied only on the training courses. You will encounter plenty of deficiencies. Therefore, a need to search for other sources is obligatory to be the right man in the right position

Table 1. Teachers` comments on the training in the sign language they received.

As shown above, each teacher has a different argument(s) though they all shed light on the numbers of training courses given in sign language, its sufficiency, and effectiveness in the field of teaching deaf children. Furthermore, Mr.Rachid was interviewed for further explanation about the unpleasant outcomes being revealed about the training in sign language and to know the cause(s) that led this training to be considered as incomprehensive. He argued as follows:

"They [teachers] do not receive training; they are trained [in sign language] nevertheless it is not enough [comprehensive]."

According to his words, Mr.Rachid showed his apparent dissatisfaction with the principles of the training offered to teachers in sign language. Mr.Bensaleh was also asked the same question. In this regard, he stated some real facts:

"There is a lack of training. Up to the present moment there isn't any official diploma in sign language interpretation, i.e. a specialised person called an interpreter... it means that in Algeria we still do not have sign language, we do not have its interpreter, either."

Therefore, he stated that there should be diplomas, degrees and masters courses in sign language. In the light of what we have already mentioned, it is clear that though teachers received training in sign language, they still lack comprehensiveness. For this reason, more efforts are apparently needed to improve the training of teachers in sign language and to provide them with the knowledge required for their carrier so that to be able to teach the deaf children in better ways possible.

3.2.The different sources used by teachers

In the absence of comprehensive training, many teachers confessed that when they started to teach in this school, they knew nothing but a little knowledge about sign language in general. Later on, they were able to some extent to improve themselves by getting more information through the different sources available. Being asked about the different sources they referred to, teachers gave a variety of ways in which they acquired their sign language and how they built their knowledge as well.

Table 2 shows some of the ways adopted by teachers to learn sign language.

Case one	I used to interact with deaf people, and I have experience. This helped me to learn it [sign language] as far as possible
Case two	Usually, I use the electronic sources such as the available sign language dictionaries on the internet plus the YouTube.
Case three	The source [of sign language] are the pupils; if you want to learn it, they will usefully help you.
Case four	Though I received training in sign language, honestly interacting with my pupils is the reason for my fluency in sign language
Case five	The old teachers have a “knowledge-base” that is developed over years of teaching experience. Hence, they are my source and reference to learn it [sign language].

Table 2. How teachers acquired knowledge of sign language.

The list of statements given on how the teachers acquired knowledge of sign language confirmed their views about the incomprehensiveness of training in sign language. Out of the five answers listed in table 2, only one teacher mentioned that he has been trained. The credit of his fluency goes back to pupils whom he used to interact with them. Unsurprisingly, the other teachers did mention that they relied on other different sources such as sign language dictionaries, YouTube, experienced teachers as well as deaf people themselves. This, of course, stresses two things to be considerably revealed. The first is that training in sign language needs to be reconsidered academically and changed to whatsoever required to meet the satisfaction of teachers of to ensure adequate knowledge acquisition of sign language. The second is to make more efforts to provide teachers with relevant sources of sign language, to support and to encourage them whenever it is needed to enhance their academic performance as well as their productivity.

3.3. Teachers' attitudes towards the sign language used

When the case study revealed facts related to the training of teachers in sign language, we wanted to know the teachers' views about sign language. Thus, the ten teachers were asked about the nature of sign language, teaching it as a subject in classes, and whether the deaf children seem to learn enough sign language from the teachers as they teach them some other different contents or not. Figure 2 below represents the teachers' various answers as follows:

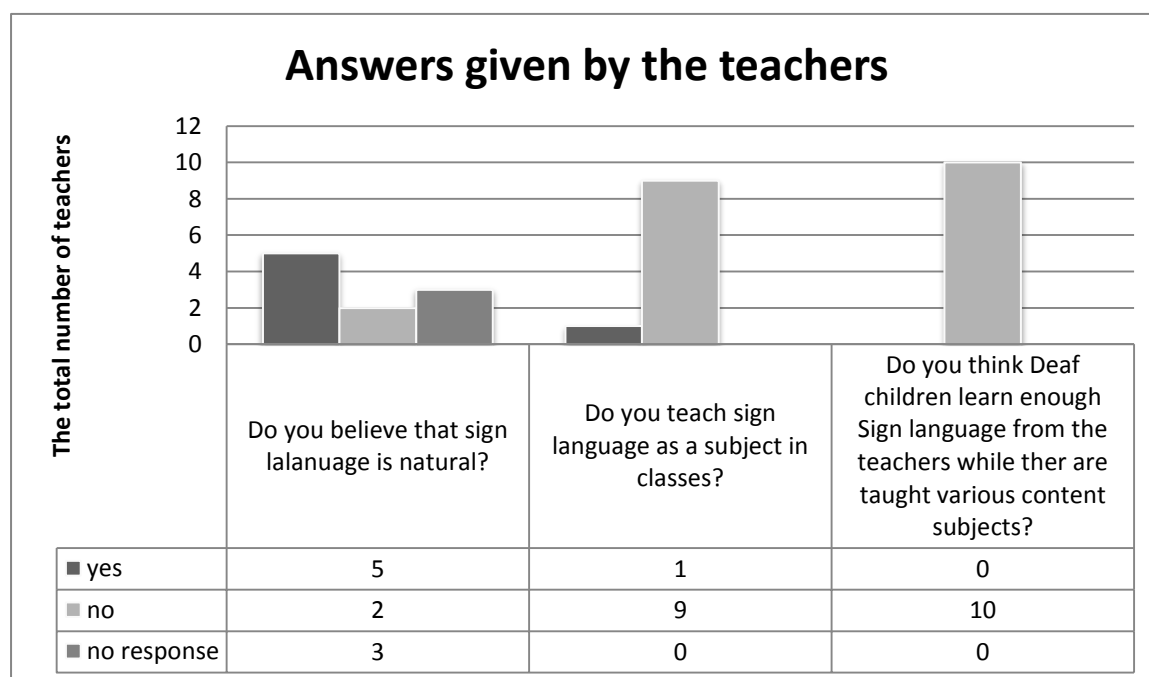


Figure 2. Teachers' attitudes towards sign language.

50 percent of the teachers seems to believe that sign language is as natural as Arabic and French. It has its alphabets, vocabularies, and grammar. Only 2 out of 10 teachers state that unlike spoken languages (e.g. Arabic), sign language is not natural. It is not even comparable, linguistically speaking. The number of teachers who responded by no represents a percentage of 20 percent. The rest 30 percent of teachers, however, gave no response at all related to the nature of sign language. These teachers were 3 in number.

Some reasons given by teachers who believe that sign language is natural were also asked by the researcher. A female teacher has 28 years of experience in teaching the deaf

illustrate that sign language is a natural language used by deaf children since the babbling stage, who acquires his first signs from his mother. Whether we agreed or not, sign language is the deaf children`s mother tongue. So, it is natural, it has its linguistic features and grammar. Further, she said that she had been trained by deaf teachers who master the language very well. If the language was not natural, she could not have been able to acquire it, understand it, use it, and teach it. Another female teacher has only five months of experience in teaching the deaf argued that it is a natural language because no one can understand it unless he learns it.

The answers to the second question that asks whether the teachers are offering sign language as a taught subject in their classes reflected noticeable results concerning teaching sign language for the deaf. The overwhelming majority of 90 percent of teachers answered by no. Almost all teachers were not offering sign language as a taught subject in the school. Only one male teacher, who has not mention his years of experience in teaching, says that he is offering it as a taught subject in his classes. The teacher claims that he has a specific class devoted only to sign language itself. In this class, he explains the content of the sign language dictionary used in the school to enrich his pupils' vocabularies.

The nine teachers, on the other hand, are not teaching sign language as a subject in the school. Two teachers say they are not offering it as a subject because it is just a means that the teacher uses to explain various content subjects like mathematics or history. Another teacher adds that it is not scheduled in the timetable to be taught as a subject itself. A male teacher has 26 years of experience in teaching justifies that sign language is not scheduled as a taught subject because he relies on the curriculum designed by the Ministry of Education only.

The third question asked by the researcher to know the teachers` opinion whether the deaf children acquire enough sign language from them as they teach different subjects or not

gave a no answer of 100 percent of all teachers. They all seem to agree that their children are not acquiring enough sign language while they teach them various subjects in classes.

According to one of the teachers, there is no subject called sign language to be taught and acquired. Besides, comparable to the findings of Musengi et al. (2013, p. 67), another teacher said that it is not sign language rather, it is only symbolic used to teach deaf people as any hearing people do. Because the deaf pupil does not understand the lesson, we try to link spoken language through the use of different signs.

3.4.The curriculum, sign language, and the methods used to teach

To investigate the curriculum, the sign language, and the methods used to teach inside the school of hearing-impaired children, the researcher carried out several observations in different classes. Before the lesson starts, the researcher always to introduces himself to the pupils of the targeted class with the help of the teacher, of course. Then, he always chooses to sit at the end of the classroom observing the interaction of both the teacher and learners. Meanwhile, notes were taken about the subject provided to pupils in addition to the way the sign language was used.

During the observations, it was clear that there is a sign language used in classes by both teachers and pupils starting from the first grade of teaching. There are eight classes. Two pre-school classes, six classes for primary grades (grade 1, 2, 3, 4, and 5 A and B). In the grade zero, preschool classes (A and B), deaf pupils learn the basics of how to read and write the Modern Standard Arabic (MSA). In addition to that, pupils at this stage acquire the alphabets of sign language and its corresponding characters in MSA. For instance, the teacher would sign the gesture first alphabet (أ) and spell it in Arabic then he moves to the next alphabet till he finishes the whole number of alphabets. In general, the deaf pupil learns signed Arabic through using some Algerian signs as a facilitator to communicate. Teachers also teach their pupils mathematics (e.g. numbers and how to count) and they give them

chances to express themselves through writing in Arabic and drawing. The pedagogical advisor says in this respect that:

“The deaf people are given only the basics of both Arabic and signs. Plus, the teachers offer, at this stage, what is called the occasional teaching. For example, if the day was windy, the teacher can profit the occasion and helps his pupils to express it through whatsoever ways possible (e.g. drawings).”

The teacher also teaches some basic vocabulary (e.g. house, plane, showering, or dancing) of Arabic by using pictures or gestures. In the other primary grades in the school, pupils master the alphabets of both Arabic and sign language. Thus, they try to acquire more vocabulary in both languages while mastering how to read and write Arabic. At this stage, there are no concerns about teaching sign language grammar. Instead, children use the sign language vocabularies and the Arabic language structure when they want to communicate otherwise, they can write in Arabic.

Deaf children can lip-read what might be said in Arabic as well as to read as other forms of interaction with hearing teachers. Therefore, the only curriculum used in the school of hearing-impaired children was the same one used for regular schools. It was not a designed curriculum to meet their needs. That is why they are supposed to learn Signed Arabic, its grammar, and sign vocabularies as a bridge towards comprehensive education.

It was not astonishing to know that there is no sign language taught except its alphabets and vocabulary. The focus was to teach Arabic alphabets, vocabulary, and grammar through the use of iconic sign language gestures. Questioning why sign language is not taught as a language, Mr.Bensaleh said that:

“There is no Algerian Sign Language neither any sign languages used in the school He added that we are not teaching academic sign language the way we were taught Arabic in schools, for instance.”

The Algerian Sign Language does not fit as a standard language which has its linguistics features and grammar. Our government has no well-trained teachers who master sign language and are able to teach it. In 2017 the first Algerian Signs Dictionary was finally published. Whereas, in Europe and some other parts of the Arab world (e.g. Qatar, Egypt, Saudi Arabia) they teach sign language as a subject. It has its grammar and features comparable to any spoken language.

The researcher attempted to carefully examine the recent and the only source of sign language available in the school. This dictionary was entitled *Algerian Signs dictionary*. It was published in 2017 by the National Foundation for Media Contact of Algeria. It uses two kinds of Alphabets, Arabic and French. Mainly, the content of is no more than pictures of sign language vocabularies and how they are signed with its captions below in both languages Arabic and French. There no grammar rules and no structured sentences, either. Hence, both Arabic language grammar and its structure are used to build a sentence in sign language. The figure 3 makes clear of how Arabic and sign language are combined:

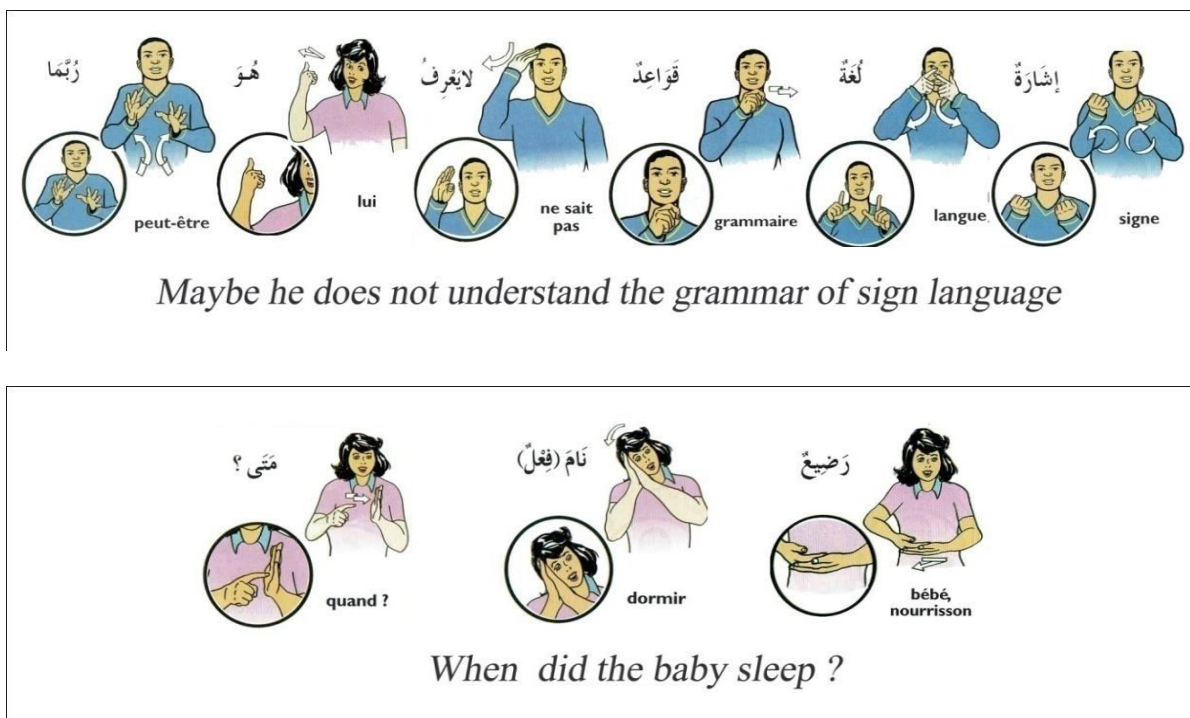


Figure 3. Pictorial representations of the grammar being taught at the school of hearing-impaired children in Adrar.

The grammar taught at this school follows the same grammar rules of the Arabic language. However, some of these rules seem to be dropped in sign language. For instance in the first sentence and the second sentence the definite article ``the`` is not used before the tow words ``sign and baby``. Another thing was dropped which is the sign that represents the question mark in the second sentence. Although it might seem that the Arabic language grammar is not entirely applicable, teachers follow it as an alternative in the absence of available sources to teach sign language and its real grammar that fits its linguistic features and nature.

3.5.Barriers and challenges to the teaching of sign language

As far as this case study has shown, the teachers and deaf children do face challenges during the process of teaching and learning at school. For teachers, the ten whom were interviewed, they all said the first challenge at this school is the lack of the different types of equipment. Therefore, one of the teachers mentioned that laboratories are needed. The deaf children are unable to learn within the context used. A white board, said another teacher, is not enough. They are not hearing children thus means of technology are required such as data show, pictures, and other visual aids are necessary for the class. Such requirements also found by AlShahrani (2014, pp. 305–308).

Similar results that was found by Alothman (2014, p. 202), the study revealed that the lack of available sources of sign language is one of the main issues and challenges encountered by teachers in this school. The only adapted source up to present is the Dictionary of Algerian Signs, but it is not enough. Other sources about sign language and how it should be taught are instead needed. There must be real books, curriculum, and dictionaries of Algerian Sign Language with its grammar and structure. In addition, a teacher suggested that teachers must use the same sources and not to rely on different ones.

The Dictionary of Algerian Signs, as the therapist commented, is a collection of some common signs and gestures used all around the Algerian country. It derives from French Sign Language. The latter has influenced the dictionary for too many reasons. On the one hand, because Algeria adopts the French system of education (e.g. the figure-spelling of French alphabets is used in the dictionary).

On the other hand, he said that the first established school for the deaf in Algeria was in 1880. Until 1974, the first Algerian school for the deaf student was finally established, let alone that the first sign language was found by De l'Eeepe as mentioned in the literature. It was known as the Old French Sign Language. It does not influence the Algerian Dictionary of signs only, in fact, it influences even the training offered to the teachers of the deaf, now.

By providing the equipment relevant to teach and the appropriate sources, teachers asked for comprehensive in-service training. After that, instead of teaching Arabic through the communicative sign language system, they suggested that sign language must be taught as a subject itself. It must be scheduled in the timetable of the hearing impaired pupils as a natural language the same as the Arabic language.

The curriculum, the teachers added, must be redesigned to meets the needs of the deaf pupils. A curriculum that helps their pupils to join high schools and universities. To help them to have diplomas and academic degrees. To be able to have deaf teachers of sign language who might muster it better the hearing teachers, after all, it is their mother tongue, and it would be much easy for them to master it. Hence, what is needed is not an oral educational curriculum, but the real need is for a sign one.

As for the deaf pupils when interviewed, the primary challenge that encounters them is lack of understanding. Sometimes, they cannot understand the signs used by the teachers neither they can be able to acquire the Arabic language grammar this was similarly found by Mpfu and Chimhenga (2013, p. 72). Some pupils said that teachers often use different signs

unlike to what they have in their minds, this was familiar to happen because both the teachers and pupils use different sources.

The teachers of deaf now are relying on the dictionary used at school, and they are teaching their pupils based on its vocabularies. As far as the teachers and pupils refer to the Dictionary of Algerian Signs, there will be no misunderstandings neither any problems. Problems will occur only if different sources are used, of course.

The teachers used to code switch from sign language to signed Arabic and vice versa. They used to simplify the misunderstood signs through whatsoever means needed (e.g. to write on the board, paper, ground. Or to draw even if possible). Thus, teaching sign language academically as a subject would be a good solution and the end of the Total Communication philosophy used by teachers as a means of teaching the deaf people.

However, it does not mean that the deaf people should not have learnt the Arabic language, but it is critical to teach them both languages spoken and signed, each with its grammar and structure. This will help the deaf pupil to learn both languages separately; hence, they can compare between the two languages and acquire them adequately. Sign language helps them to acquire their mother language and to build a linguistic development while a spoken language (such as Arabic) helps them interact with their hearing peers and may encourage them to learn their sign language even.

4. Conclusion and recommendations

Findings of this study indicate that there are some challenges and barriers encountered by deaf pupils and their teachers in particular. First, the results revealed that there is no Algerian Sign Language in Algeria neither any other sign languages are being used in the school of hearing-impaired children. What is taught to deaf are vocabulary of signs language and Signed Arabic rather than this there is not any attempt to teach sign language as a natural

language with its grammar and other important linguistic feature as we have already seen in literature.

Second, there is a need for real sources of sign language, academically speaking. Also, there is lack of equipments in this school. Therefore, the school must be well equipped to make the process of teaching much better. There is a lack of training whether the pre-service or the in-service training in sign language for the teachers who teach in that school. Hence, all teachers are not well specialised to teach the deaf pupils, and there are no interpreters, either.

Third, the curriculum designed and the source provided to teach the deaf pupils are rather weak; they do not provide the good quality of knowledge needed by the deaf pupils. It does not satisfy the needs of the teachers and particularly the deaf pupils. The curriculum must be well designed so that it paves the way for the deaf pupils to acquire sign language, to get diplomas, and to be able to teach in the future.

As a result, recommendations on the findings of this study can be summarized into four main points: (1) to provide sources and to train the teachers of the deaf; (2) to reconsider the current curriculum and to change in order to meet the hearing impaired children`s needs; (4) to offer sign language as a taught subject itself and to provided interpreters of it inside the school; (5) teachers of deaf, specialized individuals, as well as the government, need to collaborate and to discuss whatsoever issues might seem to be encountered in the special education system as well as to provide the necessary solutions. There must be an exchange between the different deaf schools that exist all around the Algerian country to get benefits and to share strategies used to teach the deaf pupils (e.g. conferences, workshops, TV and radio programs).

5.Limitations

The main limitations faced by the research are three. First, there was only one school where this study was carried out. Thus, the sample was limited and small. Second, there was only one source available to be examined in this school. It contains the vocabulary of sign language only, and nothing that illustrates its grammar or how a sign language is structured. Third, the lack of understanding the sign language used in this school by the researcher. He felt being deaf, in the deaf context though he was a hearing person. Thus, the researcher might have been unaware of several facts that might be encountered by the teachers of deaf and the deaf children, themselves in particular.

General Conclusion

This study has provided some insights about teaching sign language for the deaf impaired children within a particular educational context. It investigated the deaf teachers and educators` attitudes towards the sign language and their attempts to teach it as a language that has its grammar and linguistic features .

The special education provided to the deaf people was mainly understood as a stage which the deaf and hearing impaired children were supposed to be prepared to be integrated into the mainstream or regular school with their hearing peers. The curriculum used to teach them was the same one adopted in regular schools for hearing children. It does not meet their needs. Instead, to teach the hearing impaired children sign language as a natural one as hearing children are taught Arabic in schools, different methods and ways were used but not sign language as real language.

The primary methods used in teaching the deaf children were a mixture of Signed Arabic (e.g. reading and writing) and the communicative sign language system as a bridge and facilitator to teach the various subjects content (e.g. mathematics and history. The Total Communicative philosophy was the deaf teachers` reliable means of communication within their teaching carrier and the learning process of the deaf hearing impaired children. However, both the teachers and the deaf pupils expressed their dissatisfaction of the current situation of the special education .

From their perspective, the deaf teachers mentioned the obstacles and barriers to overcome the situation. They stated that they need, resources, training in sign language, and all the equipment required to make a success of the deaf education and so that they can carry on their studies to achieve academic goals. To be able to have deaf teachers in future and to make their life better than being segregated or uneducated. Instead of seeing the deaf children as manual workers, a good education, as well as a sign language, may change their

situation to join high schools, universities, and to take part in different academic fields such as to teach.

References

- Aakanksha, G. (2014). Adrar. Retrieved 12 April 2018, from <https://www.britannica.com/place/Adrar-plateau-Mauritania>
- Abdel-Fattah, M. A. (2005). Arabic Sign Language: A Perspective. *Journal of Deaf Studies and Deaf Education*, 10(2), 212–221. <https://doi.org/10.1093/deafed/eni007>
- Adrar in Algeria. (n.d.). Retrieved 23 April 2018, from <http://www.mapsguidesandmore.com/Algeria-Adrar>
- Ajavon, Paulina Ada. 2006. An Overview of Deaf Education in Nigeria. Ajavon, Paulina Ada.. 2003. *The Incorporation of Nigerian Signs in Deaf Education in Nigeria : A Pilot Study*. Frankfurt am Main. Brussels: Peter Lang.
- Akram, B., & Bashir, R. (2012). Special Education and Deaf Children in Pakistan: An Overview. *Journal of Elementary Education*, 22(2), 33–44.
- Alamri, A. (2009). الكفايات اللازمة لمتترجمي لغة الإشارة من وجهة نظر الصم والمترجمين في المملكة العربية السعودية: *Necessary Competencies for Sign Language Interpreters From the Point of View of the Deaf and Translators in the Kingdom of Saudi Arabia*. King Saud University, Saudi Arabia.
- Allothman, A. (2014). *Inclusive Education for Deaf Students in Saudi Arabia: Perceptions of Schools Principals, Teachers and Parents* (PhD Thesis). Lincoln.
- AlShahrani, M. M. (2014). *Saudi Educators' Attitudes towards Deaf and Hard of Hearing Inclusive Education in Jeddah, Saudi Arabia* (PhD Thesis). Exeter.
- Al-Taani, S. (2017). *النظرية والتطبيق: إعلام الصم - Deaf Media - Theory and Practice*. daralkhalij for Publishing and Distribution.
- Altwaijri, A.-R. (2014). المشكلات التي تواجه معلمي معاهد وبرامج الصم وضعاف السمع في استخدام التقنيات التعليمية في مدينة بريدة من وجهة نظر المعلمين. *The Problems facing the teachers of Deaf and*

Hearing Impairment Institutions in Using Educational Technologies in Buraydh City as Perceived by Teachers. Umm Al Qura University, Saudi Arabia.

Armstrong, D. (2000). William C. Stokoe. Retrieved 13 April 2018, from

<http://gupress.gallaudet.edu/stokoe.html>

Ayres, B. (2004). *Deaf Diaspora: The Third Wave of Deaf Ministry.* New York, Lincoln Shanghai: iUniverse, Inc.

Bisol, C. A., Valentini, C. B., Simioni, J. L., & Zanchin, J. (2010). Deaf Students in Higher Education: Reflections on Inclusion. *Cadernos de Pesquisa*, 40(139), 147–172.

Bonte, P. (1981). La constitution de l'Émirat de l'Adrar: quelques hypothèses provisoires.

Revue des mondes musulmans et de la Méditerranée, 32(1), 37–51.

<https://doi.org/10.3406/remmm.1981.1918>

Bonte, P. (2008). *L'émirat de l'Adrar mauritanien: ?arîm, compétition et protection dans une société tribale saharienne.* KARTHALA Editions.

Brentari, D. (2010). *Sign languages.* Cambridge; New York: Cambridge University Press.

Retrieved from <http://public.ebib.com/choice/publicfullrecord.aspx?p=501365>

Butterworth, R. R., & Flodin, M. (1992). *The Pocket Dictionary of Signing.* Penguin.

Cawthon, S. W. (2006). How Did We Get Here and Where Are We Going?. *The Journal of*

Deaf Studies and Deaf Education, 11(2). <https://doi.org/10.1093/deafed/enj026>

Colarusso, R., & O'Rourke, C. M. (2010). *Special Education for All Teachers.* Kendall/Hunt Publishing Company.

Davies, P., Francis, P., & Jupp, V. (Eds.). (2011). *Doing Criminological Research.* SAGE.

Deaf and Hard-of-Hearing: Some Definitions. (n.d.). Retrieved 22 April 2018, from

<https://www.deaftec.org/content/deaf-definitions>

Deafness and hearing loss. (2018). Retrieved 22 April 2018, from

<http://www.who.int/mediacentre/factsheets/fs300/en/>

- Donaldson James, S., & Huang, G. (2006). Deaf and Proud to Use Sign Language. Retrieved 8 April 2018, from <http://abcnews.go.com/Health/story?id=2719254&page=1>
- Eisner, N. (2012). *Engaging Deaf and Hard of Hearing Students in the School Library: A Handbook for Teacher-Librarians*. University of Illinois at Urbana-Champaign: Graduate School of Library Information Science.
- Elena, C., & Georgeta, I. (2016). *Innovative Practices for Higher Education Assessment and Measurement*. IGI Global.
- Fernandez-Viader, M. d. P. (2004). Education of Deaf Students in Spain: Legal and Educational Politics Developments. *Journal of Deaf Studies and Deaf Education*, 9(3), 327–332. <https://doi.org/10.1093/deafed/enh035>
- Fischer, S. D. (2010). Sign languages in their historical context. In *The Routledge Handbook of Historical Linguistics*. Routledge. <https://doi.org/10.4324/9781315794013.ch20>
- Fischer, S. D., & Hulst, H. van der. (2011). Sign Language Structures. In *The Oxford Handbook of Deaf Studies, Language, and Education* (2nd ed., Vol. 1, pp. 336–348). Oxford University Press, USA.
- Friend, T. (2004). *Animal Talk: Breaking the Codes of Animal Language*. Simon and Schuster.
- Ghardaïa, Algeria. (2012). Retrieved 16 April 2018, from <https://www.britannica.com/place/Ghardaia>
- Hanafy, A. A. E.-N. M., & El-Saadoun, A. W. B. M. (2014). طرق التواصل للمعوقين سمعياً : دليل المعلمين والوالدين والمهتمين. Methods of Communication for the Hearing Impaired, Guide for Teachers, Parents and Concerns, Riyadh. *Publications of the Arab Academy for Special Education*.
- Hard of Hearing (HoH) Definition. (n.d.). Retrieved 22 April 2018, from <http://www.nchearingloss.org/hoh.htm>

- Hendriks, B. (2008). *Jordanian Sign Language: aspects of grammar from a cross-linguistic perspective*. Utrecht: LOT.
- Ibrahim, N. B., Selim, M. M., & Zayed, H. H. (2017). An Automatic Arabic Sign Language Recognition System (ArSLRS). *Journal of King Saud University - Computer and Information Sciences*. <https://doi.org/10.1016/j.jksuci.2017.09.007>
- Innes, J. J. (1994). Full Inclusion and the Deaf Student: A Deaf Consumer's Review of the Issue. *American Annals of the Deaf*, 139(2), 152–156.
<https://doi.org/10.1353/aad.2012.0119>
- Jaafri, A. A. S. (2011). من تاريخ توات: أبحاث في التراث. *From the History of Touat Research in Heritage* (1st ed.). Algiers: Publications of El-Hadara.
- Johnston, T. A., & Schembri, A. (2007). *Australian sign language (Auslan): an introduction to sign language linguistics*. Cambridge, UK; New York: Cambridge University Press. Retrieved from <http://dx.doi.org/10.1017/CBO9780511607479>
- Knight, P., & Swanwick, R. (1999). *The Care and Education of a Deaf Child: A Book for Parents*. Multilingual Matters.
- Kyle, J. G. (1989). Sign language as cognition for deaf people: Pitfalls and prospects. *Applied Cognitive Psychology*, 3(2), 109–125. <https://doi.org/10.1002/acp.2350030203>
- La Bue, M. A. (1995). Language and Learning in a Deaf Education Classroom: Practice and Paradox. In *Sociolinguistics in deaf communities* (pp. 220–165). Washington, DC: Gallaudet University Press.
- Lane, H. (1980). “A Chronology of the Oppression of Sign Language in France and the United States.” In *Recent Perspectives on American Sign Language*, edited by H. Lane and F. Grosjean, pp. 119–161. Hillsdale, NJ: Lawrence Erlbaum.
- Lanesman, S. (2013). *Algerian Jewish Sign language: its emergence and survival* (Master). Ishara Press. https://doi.org/10.26530/OAPEN_588714

- Lanesman, S., & Meir, I. (2012a). Algerian Jewish Sign Language: A sociolinguistic sketch. In U. Zeshan & C. de Vos (Eds.), *Sign Languages in Village Communities* (pp. 361–364). Berlin, Boston: DE GRUYTER. <https://doi.org/10.1515/9781614511496.361>
- Lanesman, S., & Meir, I. (2012b). The survival of Algerian Jewish Sign Language alongside Israeli Sign Language in Israel. *Anthropological and Linguistic Insights*. Retrieved from https://www.academia.edu/10678229/The_survival_of_Algerian_Jewish_Sign_Language_alongside_Israeli_Sign_Language_in_Israel
- Lucas, C. (2001). *The sociolinguistics of sign languages*. Cambridge University Press.
- Lucas, C. (Ed.). (2002). *Turn-taking, fingerspelling and contact in signed languages*. Washington, D.C: Gallaudet University Press.
- Lucas, C., Bayley, R., & Valli, C. (2003). *What's Your Sign for Pizza?: An Introduction to Variation in American Sign Language*. Gallaudet University Press.
- Manuel Poggio, J. (2013, October 17). Offer Deaf Children Education in Sign Language. Retrieved 8 April 2018, from <https://www.hrw.org/news/2013/10/17/offer-deaf-children-education-sign-language>
- Marschark, M., & Spencer, P. E. (2011). *The Oxford Handbook of Deaf Studies, Language, and Education, Volume 1, Second Edition* (2nd ed., Vol. 1). Oxford University Press, USA.
- Marschark, M., Spencer, P. E., & Nathan, P. E. (Eds.). (2010). *The Oxford Handbook of Deaf Studies, Language, and Education*. Oxford University Press, USA.
- Mccormick, J. (2013). The Berkeley Rep Magazine. *A Window into the Deaf World*, (6), 24–22.

- McIlroy, G., & Storbeck, C. (2011). Development of Deaf Identity: An Ethnographic Study. *Journal of Deaf Studies and Deaf Education*, 16(4), 494–511.
<https://doi.org/10.1093/deafed/enr017>
- Michelle, J. (2011). *Don't just "sign" ... communicate! : a student's guide to ASL and the deaf community*. United States of America: Judea Media, LLC--Los Angeles, CA.
 Retrieved from <http://www.inducehealth.com/aslbooks/1.pdf>
- Monaghan, L. F., Nakamura, K., Schmaling, C., & Turner, G. H. (Eds.). (2003). *Many Ways to be Deaf: International Variation in Deaf Communities*. Gallaudet University Press.
- Mpofu, J., & Chimhenga, M. S. (2013). Challenges faced by Hearing Impaired pupils in learning: A case study of King George VI Memorial School. *IOSR Journal of Research & Method in Education (IOSR-JRME)*, 2, 69–74.
- Mulonda, M. (2013). *A situational analysis of the use of sign language in the education of the Deaf in Zambia: A case of Magwero and St Joseph's schools for the Deaf* (Master). Lusaka, Zambia.
- Musengi, M., Ndofirepi, A., & Shumba, A. (2013). Rethinking Education of Deaf Children in Zimbabwe: Challenges and Opportunities for Teacher Education. *Journal of Deaf Studies and Deaf Education*, 18(1), 62–74. <https://doi.org/10.1093/deafed/ens037>
- Namirembe, B., Philip, E. M., Mkama, I., & Kilave, Y. (n.d.). Teaching Deaf and Hard of Hearing Learners: Testing Innovative Teaching Practices in Inclusive Secondary Schools in Tanzania.
- Nyst, V. (2010). Sign Languages in West Africa. In D Brentari (Ed.), *Sign Languages: A Cambridge Language Survey*. Cambridge: Cambridge University Press. Retrieved from https://www.academia.edu/8250883/Sign_Languages_in_West_Africa
- Nyst, V. (2015). The Sign Language Situation in Mali. *Sign Language Studies*, 15(2), 126–150.

- Oralism. (n.d.). Retrieved 25 April 2018, from
<http://www.deafwebsites.com/education/oralism.html>
- Oralism and Deaf People. (2002). Retrieved 25 April 2018, from
<https://www.irishtimes.com/opinion/letters/oralism-and-deaf-people-1.1053082>
- Perniss, P. M., Pfau, R., & Steinbach, M. (Eds.). (2007). *Visible Variation: Comparative Studies on Sign Language Structure*. Walter de Gruyter.
- Plato, Cooper, J. M., & Hutchinson, D. S. (1997). *Complete Works*. Hackett Publishing.
- R. Penilla, A., & Lee Taylor, A. (n.d.). ASL: Facing the Challenges of the Deaf Community - dummies. Retrieved 8 April 2018, from
<http://www.dummies.com/languages/american-sign-language/asl-facing-the-challenges-of-the-deaf-community/>
- Reed, S., Antia, S. D., & Kreimeyer, K. H. (2008). Academic Status of Deaf and Hard-of-Hearing Students in Public Schools: Student, Home, and Service Facilitators and Detractors. *Journal of Deaf Studies and Deaf Education*, 13(4), 485–502.
<https://doi.org/10.1093/deafed/enn006>
- Rotatori, A. F., Obiakor, F. E., & Bakken, J. P. (Eds.). (2011). *History of Special Education*. Emerald Group Publishing.
- Rydberg, E., Gellerstedt, L. C., & Danermark, B. (2009). Toward an Equal Level of Educational Attainment Between Deaf and Hearing People in Sweden? *Journal of Deaf Studies and Deaf Education*, 14(3), 312–323.
<https://doi.org/10.1093/deafed/enp001>
- Safder, M., Akhtar, M., Fatima, G., & Malik, M. (2012). Problems faced by students with hearing impairment in inclusive education at the university level. *Journal of Research and Reflections in Education*. Vol, 6.

- Salemi, Z. (2012). *الحركة العلمية في اقليم توات خلال القرون 10-08 هجرية*. *Scientific movement in the province of Touat during the centuries 08 - 10 Hijri*. University of Abou Bekr Belkaid, Tlemcen.
- Scalenghe, S. (2014). *Disability in the Ottoman Arab World, 1500-1800*. Cambridge University Press.
- Shaver, D. M., Marschark, M., Newman, L., & Marder, C. (2014). Who Is Where? Characteristics of Deaf and Hard-of-Hearing Students in Regular and Special Schools. *Journal of Deaf Studies and Deaf Education, 19*(2), 203–219.
<https://doi.org/10.1093/deafed/ent056>
- Sheehy, K., & Budiyanto. (2014). Teachers' attitudes to signing for children with severe learning disabilities in Indonesia. *International Journal of Inclusive Education, 18*(11), 1143–1161. <https://doi.org/10.1080/13603116.2013.879216>
- Simpson, J. (Ed.). (2011). *The Routledge handbook of applied linguistics* (1st ed). Milton Park, Abingdon, [UK] ; New York: Routledge.
- Stokoe, W. C. (2005). Sign Language Structure: An Outline of the Visual Communication Systems of the American Deaf. *Journal of Deaf Studies and Deaf Education, 10*(1), 3–37. <https://doi.org/10.1093/deafed/eni001>
- Stokoe, William C., Armstrong, D. F., Karchmer, M. A., & Van Cleve, J. V. (Eds.). (2002). *The study of signed languages: essays in honor of William C. Stokoe*. Washington, D.C: Gallaudet University Press.
- Tsacoyianis, B. (2016). Disability in the Ottoman Arab World, 1500-1800. *Arab Studies Journal, 24*(1), 310.
- Total Communication. (n.d.). Retrieved 25 April 2018, from https://ipfs.io/ipfs/QmXoyvizjW3WknFiJnKLwHCnL72vedxjQkDDP1mXWo6uco/wiki/Total_communication.html


- Turki, Y. (2016). دراسة منهج تحليل المحتوى للقاموس الاشاري العربي الاول والثاني للصم للنظام التركيبي (البنائي). A Study of Content Analysis of the First and Second Arabic Sign Dictionaries for the Deaf Syntactic (Structural) System in Arabic Deaf Sign Language. *International Interdisciplinary Journal of Education*, 5(10), 401–418.
<https://doi.org/10.12816/0036058>
- Turki, Y. (2017). دراسة منهج تحليل المحتوى للقاموس الاشاري العربي الاول والثاني للصم للنظام التركيبي (الصوتي). A Study of Content Analysis of the First and Second Arabic Sign Dictionaries for the Deaf Phonology (Phonological) System in Arabic Deaf Sign Language. *IUG Journal of Educational and Psychological Studies*, 25(4), 313–284.
- Wilcox, S., & Occhino, C. (2016). Historical Change in Signed Languages.
<https://doi.org/10.1093/oxfordhb/9780199935345.013.24>
- Woll, B., & Sutton-Spence, R. (2011). Sign languages. In *The Routledge Handbook of Applied Linguistics* (1st ed, pp. 359–372). Milton Park, Abingdon, [UK] ; New York: Routledge.
- Zainal, Z. (2007). Case study as a research method. *Urnal Kemanusiaan Bil.*, 6.
- Zimmerman, H. G., & Horejes, T. (n.d.). *Origins of Deaf Education: From Alphabets to America*.

Appendices

Appendix A: The approval letter to carry out the study of the field research

الجمهورية الجزائرية الديمقراطية الشعبية
وزارة التعليم العالي والبحث العلمي

جامعة أحمد دراية أدرار
كلية الآداب واللغات
نيابة العميد لما بعد التدرج والبحث العلم
الرقم: 140 / 2018



إلى السيد: مدير مدرسة
الصم البكم بحى قراوي

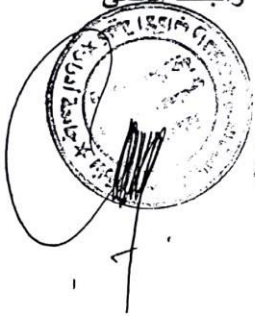
الموضوع: طلب تسهيل مهمة
تحية طيبة و بعد

بغرض انجاز مذكرة تخرج لشهادة الماستر 2 نخصص لسانيات وتعليمية
اللغة الانجليزية موسومة ب: " تدريس لغة الإشارة للصم البكم بادرار" من
طرف الطالب: هشام عبد الوافي المسجل بقسم الانجليزية سنة ثانية ماستر تحت إشراف
الأستاذ عماري محمد . .

نلتمس منكم مساعدة الطالب لإجراء دراسة تطبيقية حول الموضوع ،ولكم منا جزيل
الشكر مع كل الاحترام و التقدير .

حرر بادرار في 04 جويلية 2018

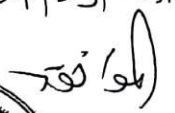
نائب العميد لما بعد التدرج
والبحث العلمي




أ. صليبو الصطام
نائب عميد كلية الآداب واللغات مكلف بندا
التدرج والبيضا العلمي والعلاقات الخارجية

ولاية أدرار
مدرسة الأطفال المعوقين سمعياً
الوارد
تحت رقم: 140 / 2018
بتاريخ: 07

Un le 07/07/2018
لموا توف





Appendix B: Interview guide for teachers

Age: sex:.....

Years of experience:.....

1. Have you received any comprehensive training in sign language?

- Yes
- No

2. Why?

3. How many times have you been trained?

4. Do you believe that sign language is a natural language?

- Yes
- No

5. Why?.....

6. How did you learn sign language?

7. Do you teach sign language as a taught subject like Arabic, mathematics, etc.?

- Yes
- No

8. Why?

9. Do you master the sign language used in this deaf school?

10. Which sources do you use to improve your sign language knowledge?

11. Do you understand the sign language used by pupils?

- Yes
- No

12. Why?

13. Do you think that pupils are learning enough sign language while you are teaching them other subjects in the class?

- Yes
- No

14. Why?

15. Do you use a specific curriculum to teach in the school?

- Yes
- No

16. Why?

17. Are there all the equipments needed to facilitate the teaching process in this school?

- Yes
- No

18. If no, give reasons and examples please?

19. Do you face any challenges or barriers in your carrier?

- Yes
- No

20. If it is no, please explain more:.....

21. As a teacher of the deaf pupils, what do you suggest as solutions and barriers-free to improve and change the current situation of teaching sign language to the deaf pupils in Adrar?

Appendix C: Interview guide for pupils

Age:..... sex:.....

Grade:.....

1.Do you feel belonging to this school?

2.Are you satisfied with the current situation of the education provided for you as a deaf child?

3.Do you understand the sign language used by your teachers?

- Yes
- No

4.If no, Why?

5.Do you master both the sign language being taught in the school and signed Arabic?

6.Do you want to be taught sign language as a subject like Arabic in classes?

- Yes
- No

7.If yes, give reasons?

8.Does the curriculum meet your needs or you think it is better to have another one to be designed according to you specific needs?

9.Explain more, please:.....

10. Do you face any problems or do have any obstacles while studying in this school?

- Yes
- No

11. Give examples, please?

12. As a deaf pupil in this school, what do you suggest to make the process of special education better?