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Abstract- Based on a bibliographical review and re-readings of different authors, we aim to bring visibility to the discussion regarding intermodal bilingualism and, consequently, to present a reflection on the acquisition of the first and second languages (L1 and L2) by deaf children. We aim to highlight the importance of the first language, in this case, sign language, as a means for developing competence in the second language, the oral language, in its written modality. We divided the article into an explanation of the contact of deaf children with sign language (SL) as their first language. It discusses the development of oral language (OL) as the second language: first addressing writing and then moving on to issues related to reading. Finally, it reflects on using visual resources and how these visual modes can enhance the second language teaching and learning process for deaf children.

Keywords: intermodal bilingual; sign language; deafness; L2.

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Intermodal Bilinguals: Acquisition of Sign Language as L1 and Written Language as L2

Bilíngues Intermodais: Aquisição da Língua de Sinais Como L1 e da Língua Escrita Como L2

Dayse Garcia Miranda [α] & Anelise Fonseca Dutra [σ]

Resumo- A partir de uma revisão bibliográfica, releituras de diferentes autores, intenciona-se dar visibilidade à discussão quanto ao bilinguismo intermodal e, assim, apresentar uma reflexão sobre a aquisição da primeira e segunda línguas (L1 e L2) por crianças surdas. Objetiva ecoar quanto à importância da primeira língua, nesse caso, a língua de sinais, como meio para o desenvolvimento da competência da L2, língua oral, modalidade escrita. O artigo se divide em uma explanação sobre o contato da criança surda com a língua de sinais (LS), como primeira língua e discute o desenvolvimento na língua oral (LO) como segunda língua: primeiramente, tratando da escrita e, em seguida, segue-se para questões relacionadas à leitura. Por fim, apresenta uma reflexão sobre os recursos imagéticos e como estes modos visuais podem engrandecer o processo de ensino e aprendizado de segunda língua para as crianças surdas.

Palavras-Chave: bilingue intermodal; língua de sinais; surdez; L2.

Abstract- Based on a bibliographical review and re-readings of different authors, we aim to bring visibility to the discussion regarding intermodal bilingualism and, consequently, to present a reflection on the acquisition of the first and second languages (L1 and L2) by deaf children. We aim to highlight the importance of the first language, in this case, sign language, as a means for developing competence in the second language, the oral language, in its written modality. We divided the article into an explanation of the contact of deaf children with sign language (SL) as their first language. It discusses the development of oral language (OL) as the second language: first addressing writing and then moving on to issues related to reading. Finally, it reflects on using visual resources and how these visual modes can enhance the second language teaching and learning process for deaf children.

Keywords: intermodal bilingual; sign language; deafness; L2.

Introduction

This article seeks to reflect on how researchers such as Andrews and Rusher (2010), Gallimore (2000), Gárate (2014), Mayberry (2007), Plaza-Pust (2012, 2014), Kuntze et al. (2014), Miranda (2019), Pereira (2009), Quadros and Cruz (2011), Silva, S. (2008) address the L1-L2 relationship for deaf children. The main proposal is to reinterpret foreign and Brazilian authors and, based on their observations, construct a text that presents the main ideas and thus assist the reader in a more systematic way to reflect on the process of writing and reading a second language by deaf children. We chose to study these renowned authors due to the credibility and seriousness with which they treat the data from their research and their conviction regarding the importance of sign language as the first language. According to these authors, this is the foundation for success in the second language and its written modality. Similarly, the references used to discuss the difficulties in bilingual education for these individuals primarily focus on the fact that teaching methodology is the basis of the learning difficulties faced by deaf children and highlight the importance of a specific way of teaching as promising, particularly one that uses visual resources as a foundation. However, there is still a lack of a robust quantity of literature on the subject, and thus discussions of this nature are essential for academic production.

I. Sign Language: L1 Acquisition

Studies on the acquisition and use of two or more languages reveal that the human mind can deal with situations of contact between languages and search for linguistic resources for each language within their respective spaces of use. Plaza-Pust and Weinmeister (2008, p.258), researchers in the field of deafness, investigate the complexity of language acquisition with different modalities (sign languages, visuospatial mode, oral language, and oral-auditorial mode) and name it an *intermodal phenomenon*.

They can identify the intermodal phenomenon in the linguistic elements of communication (sentences, lexicons) and different degrees of integration and knowledge. This phenomenon shows that intermodal bilingual learners potentialize the linguistic resources available in the interaction. As language acquisition progresses, they establish new forms of organization in circulating languages.

Therefore, when it comes to deaf children, it is essential to focus the discussions on bilingual

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acquisition; in this case, acquisition involves different languages and operational modes of language. This differentiation of modes can configure specific linguistic acquisition processes and how linguistic resource use occurs during language learning. In this sense, the difference in the modality of sign language (visuospatial) should be the principle that guides the policies of use and mastery, as well as the individual aspects of deafness.

In this line of reflection, they point out that specific circumstances, such as access and exposure to languages, are essential to the linguistic development of deaf children. Plaza-Pust (2012, p.957) advocates that every child should have access to the language that will be their first one spontaneously and interactively. Deaf children, due to hearing limitations, are in an unviable condition to access the oral language (OL) that circulates in the family environment because most deaf children are born into families where their parents can hear (Quadros, 1997). They do not know the sign language. In this case, children must access their first language through a visuospatial sign language (SL). It is from this language that deaf children enter the universe of communication naturally and spontaneously, unlike the oral language, which will require clinical-therapeutic intervention.

> The child acquires language in interaction with people around them by listening or seeing the language or languages used. Although language involves complex processes, the child "starts talking" or "starts signaling" when faced with opportunities to use the language (or languages). They experience language in each moment of the interaction, activating their language ability through contact with the language used in the environment. Any child acquires language when they have natural acquisition opportunities. (QUADROS; CRUZ, 2011, p. 15).

Regarding exposure, Plaza-Pust (2012, p.960) states that the age of contact with sign language is a critical issue for most deaf people; once again, he points out that deaf children are born into hearing parents' homes. The distancing or the success in access and exposure to SL depends on factors such as parental choices about language and early educational intervention. The idea of mother language or L1 is related to the age at which contact with the first language occurs and to the environment in which family members use the language at home. Even in countries where bilingual education is available, many parents seek sign language as an option for their deaf child much later in life, so many deaf children come into contact with SL when they are older.

According to Mayberry (2007, p.538), social and cultural factors delay deaf children's exposure to L1. For instance, the age at which people detect hearing loss varies greatly. Therefore, the child's age and the family receiving specialized care also varies. However, the author states that the care available, in most cases, is focused on hearing and speech training, omitting or minimalizing contact with SL, which even recognized as L1 in clinical environments, is usually used as support and not as the language for interactional use. Speaking is a complex process for deaf children. Even with powerful hearing devices and cochlear implants, it is exhausting for deaf children to spontaneously acquire oral language as an L1. They need a period for oral linguistic development, which is achieved based on sign language.

Deaf children present three different contexts for acquiring SL, according to the environment in which they live. The contexts are identified as (i) home, with parents and family who may be either hearing and/or deaf; (ii) the school, the bilingual school with a linguistic environment for SL, involves deaf adults, bilingual teachers, and/or deaf colleagues. If a child is in an inclusive school, the contact with SL may be through the SL interpreter and/or by a linguistic peer (deaf colleague). (iii) By the clinic with specialized care before entry or at the same time as school. Some clinics use a bilingual approach to care for deaf children. Experience in different contexts will determine the implications for the process and the language development of deaf children. (QUADROS; CRUZ, 2011, p.31).

Mayberry (2007, p.543) reports that parents do not expose many deaf children to sign language during the sensitive period for language acquisition. They start to use gestures and mimes to experiment with non-linguistic events in communicative interaction. Deaf children often access sign language as L1 very late, between the ages of five and ten. Using an artificial language system (gestures) at home or in preschool may negatively impact the later development of SL. Nevertheless, the author states that total accessibility to the language can compensate for the exposure delay.

Research on deaf children's language acquisition (Mayberry, 2007; Pereira, 2009) indicates that deaf children can achieve language even with "poor "input, even with few opportunities and/or low-quality interaction in sign language. There is much evidence that language acquisition is based on universal principles of natural languages (Generative Theory), as there are samples that prove that there is a sensitive period for language acquisition to happen correctly.

Quadros and Cruz (2011, p.17) report that American research found that deaf children exposed to SL after age twelve present much more difficulty with some SL linguistic structures and oral language than those who have contact with SL from a young age.

A study (PLAZA-PUST; WEINMEISTER, 2008, p. 263) on the writing of deaf children who attended the bilingual program in Hamburg, Germany, revealed that these children benefit from knowledge of German Sign Language (GSL) in two aspects: (i) they benefit from general knowledge obtained through this language (general world), from knowledge about grammar and SL

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production and narratives; and (ii) they compensate the gaps in writing by borrowing SL structures. A fact confirmed by Brazilian researchers such as Ronice Quadros (1997, 2005) and Maria Cristina Pereira (2009), among others, state that the acquisition of sign language as L1, naturally and spontaneously, and in the period considered appropriate for the constitution of the language, offers a consolidated linguistic basis for second language acquisition.

Starting the discussion regarding learning a second language (L2), we know that the complete acquisition of the first language (L1), starting in childhood, contributes to learning another language. In the case of children born deaf, they often start contact with sign language and have only minimal language acquisition (gestures/expressions). Then, late access to the first language affects the outcome of L2 learning. If exposure to linguistic input is not early in life, this will affect the result of both L1 acquisition and all subsequent learning, such as L2.

The first language is a necessary resource for the development of L2 competence. Proficiency in the first language contributes to the development of the second one, as linguistic and conceptual knowledge of L1 is transferred to L2. Cummins's principle of Linguistic Interdependence (1994, *apud* CARVALHO, 2013, p.25) supports this basis: to the extent that L1 instruction is effective, the children transfer this proficiency to L2. However, for learning to happen, the learner must experience adequate exposure to L2 (whether at school or in a social environment) and be motivated to learn it.

Regarding deafness, researchers have a consensus that oral/written language can be acquired as a second language, written modality, by deaf children with a bilingual education. However, few researchers agree that deaf children can compensate for the lack of access to oral language by using other ways to learn written language and thus be successful in L2. According to Plaza-Pust (2012, p. 963), researchers are divided when discussing the acquisition of writing by deaf children. Some consider it important to reflect on the impact of hearing loss and its effects on the writing development of deaf children, especially regarding the role of phonological awareness in literacy development. Others emphasize that it is necessary to look only at written language.

> [...] Gunther (2003), for example, maintains that although written language is related to spoken language, it is an autonomous semiotic system. Learners must 'crack the code' along the lines proposed for other acquisition situations; that is, they must identify the relevant units of each linguistic level, the rules that govern their combination, and the interrelation of the different linguistic levels of analysis. Innate knowledge and linguistic environment are assumed to contribute to this process (PLAZA-PUST 2012, p. 964.).

Based on this principle, deaf children do not access oral language. Therefore, they could not read and write a second language. However, this idea is at odds with the results of several investigations, which reveal that deaf children's L1 (in this case, sign language) guides the learning of written L2, as both present visual elements in their structure. (Paula, 2023; Silva, R. 2023). Consequently, Mayberry (2007, p. 548) argues that deaf children with proficiency in L1, sign language, are more resourceful when learning L2, as writing is a visual representation of a spoken language. The acquisition of SL as L1 is the basis for the subsequent learning of an oral language as L2 in its written form.

II. Developing Written Language (L2)

Continuing the discussion about learning L2/ written by deaf children, Plaza-Pust (2014, p. 25) bases her notes on the Interdependence Principle by Cummins (1979). According to the author, this hypothesis draws attention to the functional distinctions in language use and the relevance of its mastery for academic performance in acquisition situations in which the first language (L1) differs from the language used at school (L2). Thus, the assumption is that deaf students cannot achieve written/reading language through interactions only in L1. Therefore, they rely on simultaneous sign and writing as a "viable option to provide access to L2 understanding, even though it is a less successful model developed by the Total Communication Program[1]" (Mayer; Leigh, 2010, P. 177, APUD Plaza-Pust, 2014, P.26). The simultaneous use of languages is a tool in teaching a written language and a means of ensuring communication between the hearing teacher and deaf students.

According to Plaza-Pust (2012, p. 966), children differ in writing processing (phonemic, graphemic, or both). In this regard, through observation, she found that deaf and hearing students differ in the distribution of types of spelling errors in their written productions. In the writing of deaf students, she noted errors involving inversions, omissions, or substitutions of letters instead of errors related to sound correspondences, which are characteristic of the early writings of hearing students. Due to the absence of hearing, deaf students cannot phonetically structure words.

However, the author observes that the limited amount of reading input offered to deaf children is one factor that hinders the development of written language in these children. The differences between student groups in developmental progress lie in the diversification of the amount of input (access/exposure) available: while hearing children are continuously exposed to written language, deaf children have little

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access to and contact with their L2, in this case, written language. Thus, the variation in students' productions indicates the dynamic learning processes that shape language organization. Complementarily, where written language serves as L2, the role of sign language as L1 in its development is fundamental for an appropriate understanding of how deaf children can leverage their linguistic resources during bilingual development (PLAZA-PUST, 2012, p. 965).

There is much debate about teaching writing to deaf children, whether it should occur separately or in combination with sign language. Although most advocate for individualized teaching of each modality, research in this field has pointed to language mixing, temporarily, in bimodal bilingual learners. According to Plaza-Pust (2012, p. 966), in cases where there is an asymmetry in the development of two languages, learners may use a "relief strategy," a temporary borrowing of the lexicon or structural properties of the more advanced language. Thus, Plaza-Pust and Weinmeister (2008, p. 277) show that lexical and structural borrowings occur at specific stages of development in both languages, with structural borrowings decreasing as students progress.

One of the characteristics of the bimodal bilingual classroom is the constant use of languages in different modes. The authors base this diversity on the communicative practices among the participants in this linguistic environment. Researchers (Padden; Ramsey, 2008, as cited in Plaza-Pust, 2012, p. 969) have noted the importance of structural and pragmatic cues in providing information about language differences. In particular, similar or distinct educational roles for the different languages used in the classroom are fundamental to the success of bilingual development.

Research claims we must cultivate associations between sign language (SL) and written language. Regardless of the type of associations (manual spelling, alphabetic writing system, and/or the link between the two), the deaf student must be aware of the similarities and differences of each language. Knowing this will help students skillfully explore their linguistic resources in favor of mastering educational content. Language acquisition is a complex process for deaf children. Teachers (both deaf and hearing) and students creatively use their linguistic resources in dynamic communication situations. Thus, children learn to reflect on language, its structure, and its use (Plaza-Pust, 2012, p. 969).

The authors mentioned above report that in the early stages of learning to write, in communication between teachers and deaf children, the knowledge and attention to the relationships between different languages and codes become apparent: children use sign language to check meaning, and once they agree upon the equivalence of meaning, they use manual spelling to confirm the correct spelling of the word. Sometimes, children and teachers may also use oral expressions for interaction.

The choice of which language to use in bilingual environments is complex, as it relates to numerous factors such as fluency in both languages, conversation partners, the situation, the topic, and the function of the interaction (Grosjean, 1994, p. 165). For bimodal bilinguals, the limitations in the perception and production of oral language condition their choice of sign language as a base language. Thus, code-switching may involve manual spelling in interactions with other linguistic signs.

Grosjean (1994, p. 169) points out that lexical borrowing among bilinguals from one language to another is a common aspect of discursive integration. Typically, code-switching occurs to emphasize, replace, or express a concept that has no equivalent in the language being used, reinforce a request, clarify a point, alleviate communicative tension, and indicate a change in attitude.

a) Developing Second Language Reading

Andrews and Rusher (2010, p. 409), in their research on deaf children reading in a bilingual classroom, report that the term code-switching is a didactic strategy and not the linguistic phenomenon itself; it is used by the teacher for different purposes as a planned instructional strategy, for storytelling (signing stories), and for reading written stories, where the teacher translates a written sentence from the spoken language to SL, assisting the deaf student in the literal translation of the text.

Gallimore (2000, p. 129) researches the strategies for using bimodal languages in the reading process of deaf children in "Teachers' Stories: Teaching American Sign Language and English Literacy." He also states that the teacher's placing a finger on a written word indicates to the deaf student that the translation of the word or phrase into SL will be given immediately after this pointing. In this case, we can say that the pointing resource acts as a guide for the deaf child's reading, representing one of the attempts to develop a visual paradigm in the acquisition of L2 for bilingual deaf children.

Thus, the author explains that there are case studies and action research with bilingual deaf students and their teachers using pointing/translating words—guided reading, manual spelling, and language alternation as promising strategies for learning to read.

In this way, Gallimore (2000, p. 134) explains these resources and reports that guided reading leads to students' textual comprehension. The focus is on using context to predict meaning (pointing to words/ phrases and translating). With this strategy, the teacher can monitor and check reading development. The author emphasizes that the teacher's role is to carefully choose texts so that they are at the instructional level of

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the deaf student and gradually increase their difficulty level. The deaf student must draw on prior knowledge and relate it to the text, make good use of illustrations (visual resources), use SL/spoken language knowledge to access written textual structures and attend to useful visual information.

Gallimore (2000, p.125) states that manual [2] spelling offers several benefits to the reading skills of deaf children. Manual spelling is a way to represent oral expression. Because of this spelling, deaf children can identify words visually in the text. It separates the word from sound, and students can depict phonemes visually. It aids in reorganizing the structure of the word and in visual and written spelling correction; it helps recall words and practice reading. Finally, according to the author, manual spelling makes the deaf student a more efficient reader.

Andrews and Rusher (2010, p. 410–411) point out strategies developed by deaf educators using sign language as the primary means of communication. At the beginning of the class, they distribute copies of texts to the students. Shortly after the reading, they discuss the text, relate it to the student's prior knowledge, and seek to address any doubts about the material. Then, they move on to individualized reading. Students make a free translation of the text at the end of the reading.

From this free translation by the students, the educator draws a parallel between the grammar of the languages involved. When students are stuck on the textual lexicon, they stimulate peer interaction and encourage "playing" with the language. They identify problematic vocabulary and help discover connections between sign and written language. Students should be engaged in rich dialogue, continuously alternating between the two languages and using SL to mediate the text. In this way, these strategies ignore phonological information obtained auditorily and instead use semantics and pragmatic resources for understanding the printed text.

According to Gárate (2014, p. 39), the teacher needs to go beyond simple translation. They must teach the deaf student to organize ideas, create topics, and discuss the content with peers. They must encourage collective writing using software, essays, captioning, etc. They also should emphasize the importance of establishing moments of written language with the deaf student and explain the different modes of use. The alternating use (code-switching) of L1 and L2 helps the student understand the potential of each language and the ways each can influence the other, allowing for understanding and connections.

Given that authors conduct much research on the strategies and methods of teaching reading and writing in constructing the written form of the spoken language, deaf individuals do not follow the same path as hearing children; that is, there is no relationship between oral speech and writing, although results and practices that rely on resources of orality are identified, thus causing failures in writing (Pereira, 2009).

These unsatisfactory effects do not stem from the deaf children's difficulty in dealing with written symbols but from the lack of a shared language in the family and at school, the foundation of writing (Pereira, 2009, p. 12). Therefore, we should not forget that most deaf children begin reading and writing as a second language while learning sign language.

For deaf children to have skills in reading and writing in another language, it is necessary to stimulate cognitive skills—such as the ability to organize, evaluate, and compare information—in their first language and expect them to apply these skills in their second language, that is, the skills acquired in L1 will be used in L2 and vice versa. In this way, deaf children who have metalinguistic awareness in sign language have a firm support base for developing in L2.

Naturally, in the classroom, teachers control writing and reading. So, most activities involving these skills are noted in a sequence that goes from reading a text to questions about it. In the case of deafness, teachers can add another item to this activity, which is to translate what is written into sign language, making the deaf student interpret the word's meaning in the text.

Most educational projects for deaf children ignore the social role of reading and writing, ignore strategies for using two languages, and are unaware that deaf children are exposed to languages late and/or in a limited manner. For a truly inclusive society, deaf children need time to develop their language separately and begin their acquisition of L2. Educators and researchers must look more realistically at different learning spaces for deaf children's languages and reflect on how they can promote language teaching/learning for these children.

III. Image: Resource that Helps Deaf Children Read and Write

Regardless of how children develop their communication process—whether in oral or gestural form—it is through communication that children gain access to rules, beliefs, and values, gather knowledge from their culture, and, consequently, actively contribute to their formation as individuals.

In the case of deafness, researchers ensure that using sign language in all areas and ages provides adequate conditions for language development and cognitive enhancement for deaf people. It is not deafness that compromises the development of the deaf individual, but rather the lack of access to a

[2] It is the use of manual shapes/forms to represent letters of the alphabet of a spoken language. Deaf individuals use their fingers/ hands to name people, places, and things.

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language. Its absence has severe consequences and compromises the development of mental capacity.

When considering a teaching and learning methodology for reading and writing as a second language for deaf students, it is essential to emphasize the Introduction of sign language into school spaces as early as possible. However, the mere presence of sign language in an environment and/or learning activity does not support the same level of understanding of the teaching dynamics; that is, more is needed for sign language to be present in the classroom. Supporting this statement, Kuntze, Golos, and Enns (2014, p. 207-208) argue that, in addition to early exposure to sign language, socialization with visual resources is essential for the success of reading and writing in another language (L2). The authors justify this premise based on studies with deaf children of deaf parents and note that they build the skills for reading and writing through access to sign language and visual (image) modes of communication.

From this perspective, we should consider that:

> [...] a visual message composed of different types of signs is equivalent, as we have already said, to a language and, therefore, an instrument of expression and communication. Whether it is expressive or communicative, we can admit that an image always constitutes a message for the other, even when this other is the very author of the message. Thus, one of the necessary precautions to understand a visual message better is to seek out for whom it was produced (JOLY, 2006, p. 61).

Sign language facilitates the deaf child's understanding in learning L2. However, we must give attention to the difference in the modalities of the languages involved in the learning process: Sign language (SL) is visuospatial. In contrast, oral language (OL) is oral-auditory. These are different languages; therefore, the teaching methodology involving didactic resources for deaf students needs to consider the specificities of the languages involved. Deaf children use visual strategies to learn to read and write (Miranda, 2019; Paula, 2023; Silva, R., 2023).

Many consider that the slow progress of many deaf children in developing writing and reading skills is related to limited knowledge of sounds and do not believe that learning can occur through visual resources; however, research advances and proves that visual elements assist in the writing production of deaf children (Paula, 2023).

In studies, McQuarrie and Parilla (2009, as cited in Kuntze et al., 2014, p. 205) identified that deaf readers were insensitive to the phonological structure of words. Supported by sign language, they used visual strategies (images, gestures, spelling, code-switching) and thus based their learning on these. In the investigation conducted by Silva (2023), the author pointed out that using comics as a cultural artifact of the deaf community is a relevant proposal to engage deaf students in reading and interpreting images, and it can offer possible pathways for deaf students to reach writing proficiency.

Building the idea of the image as a prerequisite for literacy[3], we have, in modern times, the perspective that not only verbal language (oral/written) produces knowledge, but other discursive modes (image/sound/colors/signs) contribute to the construction of meaning.

Researchers Gesueli and Moura (2006), in the article "Literacy and Deafness: The Visualization of Words," present some authors who advocate for the appropriation of images as a support for writing:

> Sofiato (2005) discusses the uses and meanings of the image in this context, stating that writing has its origin and that from a very early age, we learn to read these images—visual messages. Hughes (1998, as cited in Reily, 2003) focuses on visual literacy, considering it a mistake to think that the appropriation of visual literacy happens intuitively in school. This author shows that the school does not value visual language's role in constructing language (reading-writing) and numerical knowledge. Reily (2003, p. 164) proposes visual literacy in the school curriculum and considers that "the image has been used in school with a primarily decorative function, in such a way as to dilute the tedium caused by the visually uninteresting writing of texts" (Gesueli & Moura, 2006, p. 112).

For Strobel (2008, p. 41), deafness is experienced visually and means using vision in "total substitution for hearing" as a means of communication. The visual experience goes beyond linguistic issues and represents individual significance. The deaf person is a visual subject, and teaching and learning practices must prioritize the visual experience.

Ana Regina Campello, in the article "Pedagogia visual" (Visual Pedagogy), already addressed the importance of expanding the production of didactic materials that utilize more visual resources. Thus, she emphasizes: "This is called image semiotics, a new study, a new visual field where we insert deaf culture, the visual image of the deaf, deaf perspectives, visual and didactic resources" (Campello, 2008, p. 106).

Researchers need to investigate the premise better by referring to the possible learning method for deaf students through images. However, researchers such as Kuntze, Golos, and Enns (2014, p. 203), in their studies, prove that visual modes are natural elements that help deaf children (regardless of auditory diversity) achieve tremendous success in writing and reading L2. From this perspective, they assume that images, sign language, and writing represent different discursive modes that complement and assist in understanding and executing the exercise.

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Thus, from this angle, for deaf students, the relationship between the image and the written text will always be visual. Skliar argues that deafness means a visual experience, and this means that "[...] all mechanisms of information processing, and all ways of understanding the surrounding universe, are constructed as a visual experience" (1998, p. 28).

IV. Final Considerations

We begin by revisiting the central reflection: In a teaching and learning methodology for writing and reading for deaf students, it is essential to emphasize the Introduction of sign language into school spaces as early as possible. Sign language facilitates these students' understanding of a spoken language in its written form.

Deaf students need not be balanced bilinguals to learn from these instructional strategies. However, bilingual and fluent teachers are more effective in articulating between the languages and become more insightful about the methods that help deaf children improve in both sign language and written language (Andrews & Rusher, 2010, p. 421).

Thus, educators and researchers must look more realistically at different language learning spaces for deaf children and reflect on how they can promote language teaching and learning for these children. When deaf education begins to focus on the specific elements of deafness, as advocated here—visual resources—the proposal for teaching a second language, in its written form, changes its configuration and starts to present visual and cultural characteristics of deaf students (Silva, 2008, p. 37).

Finally, studies on developing writing and reading for people who are deaf or hard of hearing should focus on environments that build linguistic skills, which means providing visual perspectives to deaf students. We must set aside the conventional assumption that written language follows the spoken language and consider the independent possibilities of spoken language. Deaf children thrive and organize the world mainly through their eyes. After all, more than a century ago, Veditz (1912), a deaf educator, said: "Deaf people are the first, last, and all the time, people of the eye" (Kuntze et al., 2014, p. 217).

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