



Access to the Written Text of the Deaf Signer Students: A Review of the Research

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1. Deaf people, a minority language group

There are mainly two ways of perceiving deafness, written by convention in two different forms. “*Deaf people*” (beginning with capital letter) refers to those who consider themselves members of a cultural and linguistic community. In this social conception of deafness, sign language takes a special role, as a full, natural language. On the other case, “*deaf*” refers to an audiological condition. It reflects a medical perspective of deafness, conceiving it as a disability [12].

A particularity of this linguistic group is that unlike the hearing societies “the language and cultural background are not transmitted *preferably* from parents to children, but between peer groups and educational centers” [11]. Only a small percentage of the deaf children are born from deaf parents. That is why the educational setting is of great importance in the case of sign language communities.

2. Deaf children education

Since the beginning of the formal education of deaf children in the 18th century, there has been educational methods designed using sign language or some kind of manual code for a spoken language in deaf education. Its use, however, has considerably fluctuated, depending on the conceptions of deafness of the society.

2.1. The main trends in education for deaf children

In Europe, two educational trends emerged. The oral method, concentrated on the development of speech and use of residual hearing; and the French one, which emphasized the use of visual-gestural communication.

The latter system influenced the establishment of the first school for deaf children in America, in 1817, and 50 years later the first American oral school for deaf was founded. However, by 1928 nearly 80% of deaf American students were taught without sign language [18], in part due to the Milan Congress on Education of the Deaf in 1880, which resolved “that the Oral method ought to be preferred that of signs” [21]. Most schools orientated towards oral educational practice, driven by the conviction that deaf people needed to speak to integrate in hearing society. In the 1970s, some proposals for a bilingual education [4]. As a result, in the 1980s began the establishment of bilingual education programs.

2.2. Bilingual education programs

This education model consists of the use of sign language and spoken language as a vehicle for communication and access to the school curriculum. It is argued that sign language provides richer linguistic and experiential knowledge, and that it facilitates the cognitive development and the access to academic contents [24].

The bilingual education for Deaf children is also supported by the linguistic interdependence model [8], which suggests that “to the extent that instruction in L_x is effective in promoting proficiency in L_x, transfer of this proficiency to L_y will occur provided there is adequate exposure to L_y... and adequate motivation to learn L_y”. The transfer may occur in different ways depending on the sociolinguistic situation: transfer of conceptual knowledge, metacognitive and metalinguistic strategies, pragmatic aspects of language use, transfer of specific linguistic elements and/or phonological awareness [9].

Nevertheless, the theoretical basis of the bilingual education for Deaf children has not been accompanied by concrete ways to apply it [4]. There are a wide range of ways to implement them, which vary in the role of sign language and the majority language, in either of its forms: spoken, written or signed.

2.3. Challenges of bilingual education model

In the last years the bilingual education models are living a decrease of their students, in part due to the technology advances, like the improvement of the cochlear implants [21], coupled with the believe of the advocates of oral communication that “dependence on speech and audition for communication is critical for achieving maximum auditory benefit from any sensory aid” [13]. Despite this situation, it must be taken into account that there are evidences that sign language is not negative for the spoken development [15, 28], and that there are cultural and social implications in the use of the sign language. Besides, there is still a notable variability in the outcomes of cochlear implantation [13].

Further work is needed in a wide range of fields [1, 2, 3, 4, 5, 6, 10, 25]: in evaluating the programs' effectiveness, their implementation, studies on inclusion, the professional development of teachers and interpreters, the role of deaf professionals, instructional strategies, concretely those using bilingual techniques, the development of adequate assessment instruments, and literacy practices in non-formal educational environments. Among all the research fields, the fields of sign linguistics and development, cross-modal bilingualism, and literacy development are of great importance to go into the rest of the areas.



3. Literacy and sign language

Regardless of the communication modality, deaf children do not achieve the same reading and writing skills than their hearing peers [14].

There are a number of factors related with successful literacy development: phonological processing skills, vocabulary knowledge, language/discourse skills, child and family characteristics [14]. Whereas when hearing children begin to learn reading and writing their spoken skills are high, deaf children “do not come to the reading task with the same skills in sentence formation, vocabulary, and world knowledge to reading” [27]. The most relevant aspect is therefore the close relationship between literacy and linguistic skills [22]. Linguistic development of deaf children will depend on the degree of their hearing loss, the onset of deafness, the age of diagnosis, the age and kind of intervention, its success, and the family involvement [20].

In case that intervention includes sign bilingual education, there exist three hypotheses regarding the relationship between literacy and sign language [17]. According to the *interference hypothesis* and the *double discontinuity hypothesis*, this relationship would be negative or neutral respectively. The latter argues that the lack of a written form of the sign language makes the route “sign language – written language” impossible [19]. In favor of the bilingual education approaches, there are evidences to support the *positive relationship hypothesis*, such as the significant relationship between sign language proficiency and literacy found in a number of researches [7, 16, 17, 23, 26]. Nevertheless, literacy skills of deaf children attaining bilingual programs are not being as high as expected [3].

Assuming that there is a positive relationship, the question is where do the mechanisms that favor the relationship lie? Niederberger [24] found that French Sign Language (LSF) narrative skills correlated with both written French narrative skills and written French morphosyntactic skills, which suggests that transfer happens in several levels. She pointed out that the use of LSF as a metalinguistic tool to study and monitor written French language could explain it.

3.1. Investigating the metalinguistic reflexion

In this context, the research that is being conducted aims to contribute to the knowledge of the specific field of the metalinguistic reflexion that may have a relevant part on literacy development and writing process of Deaf children. Furthermore, it is being designed to analyse other factors like the evolution of LSC knowledge and its relationship on literacy and the relation between writing and LSC and oral language skills.

Their writing process is investigated observing some composition tasks in group, where they are asked to write based on wordless picture stories. We expect to examine the metalinguistic conversation between the students. The fieldwork is being conducted in a Catalan Sign Bilingual School, a mainstream centre with 6 to 12 year old hearing and Deaf students where the main languages of instruction are Catalan Sign Language (LSC) and spoken/written languages (Catalan and Spanish).

4. Conclusion

Little research has been done to study the effects on literacy of having learnt a sign language in infancy. Furthermore, research in sign languages is in its infancy. Nowadays we are living a new change in the world of the deaf, that is, the widespread use of cochlear implants and the improvement of hearing aids. It can be argued that this will lead to the extinction of sign language, and that research in this field is not worth.

However, today Deaf children are more likely to acquire a more balanced bilingualism. In view of the research advances, sign language should not be seen as a threat for spoken development. Consequently, the two traditional trends in education are destined for getting on well and breaking the molds. That is why we need to further investigate the cross-modal bilingualism and its implications for literacy.

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