Narrative skills of deaf and hearing students in bilingual contexts in Spain and Italy

Competencias narrativas de alumnos sordos y oyentes en contextos bilingües de España e Italia

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Abstract

The main objective of the study is to analyse the narrative skills of deaf and hearing students in bilingual contexts in Spain and Italy. A descriptive methodological approach has been adopted to that end, where the sample was obtained incidentally on the basis of the criteria: bilingual model and teaching approach. Regarding the data collection procedure, students were asked to write a text after viewing the *Frog, ¿where are you?* sequence. Written texts were then analysed on the basis of a model developed by integrating the contributions of a series of authors. The results show that deaf and hearing students from the Italian context, compared to Spanish students, write texts of greater length and syntactic complexity and make more frequent use of evaluation devices. Furthermore, there are no significant differences between deaf and hearing students in Italy in the use of subordinate clauses and evaluation devices related to internal-mental states. Thus, the development of narrative skills in hearing and deaf students can be attributed the didactic proposals implemented in the Italian school context and characterised by the textuality-oriented pragmatic approach to writing.

Keywords: Writing; narrative competences; educational practices; bilingual education; deafness

Resumen

El objetivo principal del estudio es analizar las competencias narrativas de alumnos sordos y oyentes escolarizados en contextos bilingües de España e Italia. Para ello, se ha adoptado un enfoque metodológico descriptivo donde la muestra se obtuvo de manera incidental en base a los criterios: modelo bilingüe y enfoque de enseñanza. En la obtención de datos se pidió al alumnado que escribiera un texto tras la visualización de la secuencia *Frog, ¿where are you?* Posteriormente, se procedió al

análisis de los textos escritos a partir de un modelo elaborado integrando las aportaciones de varios autores. Los resultados indican que los alumnos sordos y oyentes procedentes del contexto italiano, en comparación con los alumnos españoles, escriben textos con una mayor longitud y complejidad sintáctica y utilizan con mayor frecuencia los dispositivos de valoración. Además, no existen diferencias significativas entre alumnos sordos y oyentes de Italia, en el uso de las proposiciones subordinadas y de los dispositivos de valoración relacionados con los estados internos-mentales. Así, el desarrollo de las competencias narrativas en alumnos oyentes y sordos puede ser atribuida a las propuestas didácticas implementadas en el contexto escolar italiano y caracterizadas por el enfoque pragmático de la escritura centrado en la textualidad.

Palabras clave: Escritura; competencias narrativas; prácticas educativas; educación bilingüe; sordera

Introduction

Writing is an essential tool that allows everyone to organise their thoughts and express their ideas and emotions. It also represents a vehicle of access to written culture that favours their social inclusion. Writing has been the subject of study from various research approaches, which point to the complexity of this practice in that it involves cognitive, metacognitive and motivational processes (Bereiter & Scardamalia, 1987; Ferreiro, 2003; Flower & Hayes, 1981).

Specifically, written storytelling is a socio-cultural activity whereby experiences are organised and personal and cultural histories are integrated, establishing links between past, present and future (Losh & Capps, 2003). Different research approaches agree that the development of an adequate narrative requires not only some kind of awareness of the narrative structure, but also the use of specific linguistic strategies to inform the reader about the emotional value and meaning of the story (Montanari, 2004).

Most research on the analysis of narrative skills focuses on monolinguals (Chilton et al., 2019; Gutiérrez-Cáceres, 2014; Lonigro et al., 2018), with very few studies addressing this issue in bilingual subjects who use two linguistic systems: L1 -First Language and L2 -Second Language. Cummins (2002) suggests the existence in bilingual children of a common cognitive function that favours the transfer of this skill from L1 to L2. However, few authors consider the impact of this process on writing in L2, and even less in a specific case of bilingualism, such as that of deaf people (Henner et al., 2018; Menéndez, 2012; Scott & Hoffmeister, 2018; Swanwick, 2017).

Hence the relevance of this study, whose main objective is to analyse the narrative skills of deaf and hearing students from school contexts in Spain and Italy, being these two bilingual schools where the sign language of each country and the corresponding national language are used: Spanish and Italian, both considered as Romance languages closely related to each other[i]. The state of the art of this study is presented below, as well as the methodological aspects that have been developed and the most relevant results obtained.

Theoretical framework

As for the relationship between sign language and written language, Fabbretti and Caselli (2001) believe it would be difficult to assess the influence of sign language on writing, given the difficulty of establishing which is the mother tongue and which is L2, as in the case of deaf children of hearing parents. Therefore, the assessment of the level of sign language competence is necessary to investigate its impact on L2.

In a study focusing on vocabulary use (Singleton et al., 2004), there is evidence that texts written by deaf primary school students proficient in sign language contain more varied and complex vocabulary compared with those written by deaf students who are not proficient in sign language. Another study, carried out in secondary education, shows that deaf students with a high level of sign language and written language proficiency produce texts that are appropriate in both formal aspects and narrative structure, whereas deaf students with a high level of sign language proficiency and a low level of written language proficiency produce texts that are appropriate only from a textual perspective (Koutsoubou et al., 2006). These results suggest that high sign language skills have an impact on the deeper levels of text writing.

Van Beijsterveldt and Van Hell (2009) conducted research on the analysis of narrative texts through a comparative study between four groups of subjects: highly sign language proficient deaf students, low sign language proficient deaf students, monolingual hearing students and bilingual hearing students. The results confirm that the syntactic complexity of written texts is found to be lower in the two groups of deaf students than in hearing students. On the other hand, it should be noted that deaf students who are proficient in sign language transfer their skills in the production of written texts through the use of evaluation devices. This interrelationship between sign language and written language has been verified through a case study (Teruggi & Gutiérrez-Cáceres, 2015) that we conducted on the analysis of the narrative skills of deaf and hearing students from the same bilingual school context in which a didactic model of written language focused on textuality is developed. In fact, no significant differences were found in the texts written by the deaf students with respect to their hearing peers on the three levels under analysis (syntactic complexity, narrative structure and evaluative devices). Unlike the studies mentioned above, the common denominator in this case study is the school context, not only bilingual but also characterised by a pragmatic and reflexive approach to the teaching of writing, with a particular focus on planning and textual revision based on the contrast between Italian Sign Language (LIS) and Italian Language.

According to Mayer and Trezek (2019), there is very little research on the impact of the teaching-learning methodology of writing on the development of narrative skills in deaf learners (Marschark et al., 2016; Strassman and Schirmer, 2012; Wolbers et al., 2015). Most focus on the descriptive study of teaching practices or methods for reading, the analysis of certain cognitive functions in deaf people and the identification of difficulties on the part of deaf students compared to their hearing peers.

The most widely used methodological approaches to literacy teaching for deaf students are based on two assumptions: a) the specificity of learning that promotes use of special teaching methods and b) the similarity between deaf and hearing students, which leads to

the implementation of the same teaching strategies in both groups. Although writing is a recursive and complex activity, teaching practices persist that generally pay more attention to the superficial aspects of writing, such as grammar and spelling.

In view of the state of play, this research aims at analysing the impact of the school context on the development of textual and narrative skills of deaf and hearing students. For this purpose, two contexts are considered: they are implemented in two schools from Spain and Italy, which, on the one hand, share the same bilingual approach characterised by the use of sign language and oral/written language as instruments of communication and access to knowledge and, on the other hand, differ with respect to the didactic model of teaching-learning reading and writing.

Following previous studies on the impact of the school context on the quality of texts written by deaf students as well as the recent consolidated line of research (Teruggi & Gutiérrez-Cáceres, 2015, 2016), this paper relies on the fact that an inclusive bilingual school context with a particular attention to writing teaching, through a methodological approach focused on textuality, can significantly contribute to the development of textual and narrative competences in both deaf and hearing students. Therefore, the questions guiding this study are:

- How do bilingual school contexts affect the different dimensions of textuality in both deaf and hearing students?
- Are there differences between deaf and hearing students in the same school context in terms of textual and narrative skills?
- Are there any similarities between texts written by deaf and hearing students in both school contexts?

Methodology

Objectives

This study adopted a descriptive methodological approach combining both quantitative and qualitative aspects in order to analyse the textual and narrative competences of deaf and hearing students in two schools. Based on this main objective, the following specific objectives were set out:

- To analyse the syntactic complexity, narrative structure and evaluation devices of texts written by deaf and hearing students in Spain and Italy.
- To compare textual and narrative competences according to deaf/hearing status and Spanish/Italian bilingual context.

Participants

Based on relevance and in response to the objectives set, the sample was incidentally selected according to the criteria of the bilingual model developed and the teaching approach used.

In the Spanish context, 25 students from 6th year of Primary Education participated: 12 boys and 13 girls, with an average age of 11.75 years (SD= 0.54). In the Italian context, a total of 20 students in their first year of middle school with an average age of 11.82 years (SD= 0.37): 6 boys and 14 girls. As far as the deaf/hearing status is concerned, five students are prelingually deaf and use hearing aids too. Specific data on the degree of hearing loss of each student, as well as on the communication system used and the parents' status are shown in table 1.

Table 1.
Characteristics of deaf students

Student	Background	Degree of hearing loss	Parents' status	Communication system
A	Spanish	Severe	Hearing	Oral Language
B	Spanish	Moderate-severe	Hearing	Oral Language
C	Italian	Profound	Hearing	Sign Language
D	Italian	Profound	Deaf (father)	Sign Language
E	Italian	Mild-moderate	Deaf	Oral Language / Sign Language

Regarding the specific characteristics of each bilingual context, in the Spanish educational establishment, experiences of combined schooling are developed where deaf and hearing students share teaching and learning situations (in certain areas or subjects), thanks to the coordination between the teacher tutor of the ordinary classroom, the hearing impairment specialist and the support teacher of the specific centre. In this establishment, the educational response is planned according to the educational needs of each deaf student (timetables, class time of the ordinary school in cases of combined schooling, timetable of the individual speech therapy services, time for specific attention, time dedicated to the teaching of Spanish Sign Language); the didactic activities in the specific classroom are organised and the actions of the individual speech therapy services are planned. As far as writing teaching is concerned, the approach used is a traditional one, whereby writing is considered a language area and not a tool for life. The core idea is that in order to learn to write it is necessary to know the grammatical rules, the textual structure and the formal organisation of written language. This approach is generally implemented as follows: the teacher explains the logical structure of a text, e.g. narrative, the students complete or transform given texts, then write a story and the teacher corrects their texts.

A typical case of bilingualism takes place in the Italian bilingual school as deaf students use sign language as L1 and spoken/written language as L2, while hearing students use sign language as L2 and spoken/written language as L1. In this school context both communication systems are on the same level, thanks to the continuous presence of an interpreter who mediates communication between deaf and hearing people sharing the same group-classroom on a full-time basis (40 hours per week), as well as the teaching of sign language as a curricular subject for all students. As far as the didactic approach to writing adopted in the Italian context is concerned, it promotes the production of texts in real communication situations (with specific purposes and recipients), fosters collaborative writing (in pairs, in small groups) and encourages reflection on the writing processes and strategies used (metacognitive reflection). Specific workshops for deaf students are also held in order to promote activities focused on textual planning and revision (Ceria & Cantono, 2003).

Data collection procedure

A narrative induction task was used to obtain the data, based on the visual presentation of a story structured in images about *Frog, ¿where are you?* (Mayer, 1969). It is a wordless picture book, made up of 24 pictures that tells the story of a boy, his dog and a frog that suddenly disappears. The two main characters search for the frog overcoming a series of challenges until they find it.

This instrument has been used as a neutral linguistic input in a number of research studies to assess the ability to convey the chronological sequence of events and to draw inferences about the relationships between characters, their thoughts, feelings and reasons (Koutsoubou et al., 2006; Reilly et al., 2004; Tomasuolo et al., 2008).

In this study, the students were specifically asked to observe and understand the narrative sequence and then each was asked to tell the story in writing for a younger child to read.

Data analysis procedure

In order to analyse the written texts, an analysis model (Teruggi & Gutiérrez-Cáceres, 2015) was used, developed according to the objectives of this study and based on the contributions of several authors (Bamberg & Damrad-Frye, 1991; Losh & Capps, 2003; Reilly et al., 2004). The model is structured on the basis of the following dimensions of written text, together with their corresponding analysis parameters:

   a) Syntactic complexity: this begins with the identification of clauses and sentences and continues with the analysis of the following parameters:

   - Length of texts, referring to the total number of clauses.
   - Length of clauses, determined by the average frequency of words per clause.
   - Length of sentences, referring to the average number of clauses per sentence.
   - Frequency of complex syntactic structures, in terms of the number of complex sentences in relation to the total number of sentences.
   - Types of complex syntactic structures, represented by the number of coordinate/subordinate clause in relation to the total number of clauses.

   b) Narrative structure: the basic components of the narrative structure included in *Frog, ¿where are you?* are identified, the corresponding score depending on the presence or absence of the following elements:

   - Setting: it includes the presentation of characters, places and time frame of the story (1 point).
   - Problem: it refers to the initial situation of the story when the frog escapes (1 point).
   - Frog search actions: including encountering the bees, the mole, the owl, the deer and falling in the water (up to 5 points).
   - Resolution: this is the solution to the problem concerning the frog's encounter (1 point).

c) Evaluation devices: they are analysed through the identification and categorisation of devices developed by the writer himself in order to maintain the reader's interest, which are classified as follows:

- Devices relating to internal-mental states, comprising the following sub-types:

• Cognitive: referring to inferences about the causal relationships of events and/or characters' behaviours (e.g., "...abrieron la ventana para ver si estaba…", "…se lo portò a casa per poterlo allevare"), as well as the mental states of the main characters (e.g. "...El niño se subió a unas ramas, o eso pensaba él, porque salió un ciervo...")., "… pensaba che ci fosse la rana nel buco…").

• Emotional: these are inferences about the affective and emotional states of the characters (e.g., "…el ciervo estaba furioso…", "… Fido che scappava paurosa…").

- Social engagement devices, aimed at engaging and maintaining the reader's attention, such as:

• Sound effects and onomatopoeia: "Matteo escucha cra-cra-cra", "il cane "bou"".
• Direct or indirect speech: "¿Dónde estás? ¡Regresa! Gritó", "disse Fulvio "Andiamo avanti"".
• Attention-getters: "¿Sabes lo que está haciendo Willy?", "peccato che c´era un laghetto".
• Intensifiers: "Camina y camina", "cadde rompendo in mille pezzi il barattolo".

Results

Following the model of analysis described above, the most relevant results in each of the dimensions of written text are shown below, both from a descriptive and comparative point of view, according to the deaf/hearing status and the Spanish/Italian bilingual context.

Syntactic complexity

As for the length of the texts, there is an overall average of 57.79 clauses per text (SD= 11.46), with the highest frequency found in texts written by Italian students, compared to those written by Spanish students (M= 65.16 and 50.42, respectively). Likewise, as can be seen in table 2, in both school contexts, deaf students produce a higher frequency of clauses than their hearing peers (M= 64.41 and 51.17, respectively).

Table 2.

Syntactic complexity: descriptive statistics

Students		Frequency				Average			Percentage		
		PAL	PRO	ORA		LPRO	LORA		CS	PROC	PROS
ESP	Deaf	313.50	56.50	21		5.69	2.66		80.23	38.07	24.30
	Hearing	258.69	44.34	16.60		5.96	2.70		83.23	35.55	25.87
ITA	Deaf	373.66	72.33	25.66		5.19	2.78		82.24	35.74	28.49
	Hearing	330.64	58	19.76		5.78	2.93		86.39	36.81	28.72

Note. PAL: Words; PRO: Clauses; ORA: Sentences; LPRO: Length of clauses; LORA: Length of sentences; CS: Syntactic complexity; PROC: Coordinate clauses; PROS: Subordinate clauses

As for the length of clauses and sentences, no significant differences were found between the Spanish and Italian contexts (M -length of clauses= 5.82 and 5.48; M -length of sentences= 2.68 y 2.85, respectively), neither between deaf and hearing students (M -length of clauses= 5.44 and 5.87; M -length of sentences= 2.72 and 2.81, respectively).

83.02% of the sentences produced are compound sentences, with a difference between the texts written by Spanish students and those produced by their Italian peers of 81.73% and 84.31%, respectively. Of the complex sentences as a whole, 36.54% are coordinate clauses, while 26.84% are subordinate. Comparison of both school contexts reveals a higher percentage of subordinate clauses by Italian students, with an average of 28.60%, compared to the Spanish group with 25.08%. In both school contexts, hearing students slightly excel in the use of complex syntactic structures, compared to deaf students (M= 84.81% and 81.23%, respectively).

In view of the school context and the deaf/hearing status, it is found that the group of Italian deaf students excels both in terms of syntactic complexity as well as in the use of subordinate clauses (82.24% and 28.49% respectively), compared to the Spanish deaf group, with 80.23% and 24.3%. It should also be noted that there are no significant differences between deaf and hearing students in the Italian school context in the use of coordinate and subordinate clauses, while in the Spanish context there are differences between deaf and hearing students, especially in the use of coordinates.

Narrative structure

As can be seen in table 3, students in both contexts write their texts including most of the story components of *Frog, where are you?* In particular, they fully refer to the problem, the fall into the water and the story's resolution. On the other hand, there are no significant differences in the average final score both between contexts (M= 7.39 and 7.42, in Spanish and Italian context, respectively), as well as according to the status (M= 7.66 and 7.15, in deaf and hearing, respectively).

Table 3.

Narrative structure: basic components

Students		ES	PR	EA	ET	EL	EC	CA	RE	PM
ESP	Deaf	1	1	1	1	1	1	1	1	8
	Hearing	0.95	1	0.78	0.60	0.47	0.95	1	1	6.78
ITA	Deaf	1	1	0.66	0.66	1	1	1	1	7.33
	Hearing	1	1	0.76	0.88	0.88	1	1	1	7.52

Note. ES: Setting; PR: Problem; EA: Meeting the bees; ET: Meeting the mole; EL: Meeting the owl; EC: Meeting the deer; CA: Falling in the water; RE: Resolution; PM: Average score

Evaluation devices

For the written texts as a whole, an overall average of 18.94 evaluation devices (SD=5.31) which represents 32.33% of the total number of clauses. In view of the school context, the group of Italian students stands out with an average of 36.02%, compared to the Spanish group with 28.46%; while considering the deaf/hearing status, the hearing students use the evaluation devices more frequently, with an average of 36.61% compared to 28.05% for the deaf students. Considering the two factors, context and status, higher percentages of evaluation devices are recorded in the texts written by deaf and hearing students from the Italian context compared to those produced by the Spanish group (see table 4).

Table 4.

Evaluation devices: frequency and percentage

Students		Cognitive device	Emotional device	Sound effects	Direct speech	Attention-getter	Intensifier
ESP	Deaf	2.5 (4.42)	3.5 (6.19)	1 (1.76)	2 (3.53)	0.5 (0.88)	3.5 (6.19)
	Hearing	4.13 (9.31)	3.08 (6.94)	1.04 (2.34)	2.26 (5.09)	1.65 (3.72)	2.91 (6.56)
ITA	Deaf	5.33 (7.36)	7.33 (10.13)	-	4 (5.53)	4.33 (5.98)	3 (4.14)
	Hearing	6.11 (10.53)	4.29 (7.39)	0.64 (1.10)	2.05 (3.53)	2.88 (4.96)	6.82 (11.75)

Note. Percentage in brackets

Among the different types of evaluation devices, social involvement devices are slightly predominant with an average of 16.76%, compared to 15.56% for devices referring to internal and mental states. Comparing both school contexts, there is an increase in the use of both types of evaluation devices by the Italian group: 18.49% of those referring to social engagement and 17.70% to cognitive devices, in contrast to the Spanish group, with 15.03% and 13.43%, respectively. In terms of deaf/hearing status, the hearing students in both contexts use more frequently both types of evaluation devices, with an average of 19.52% of social involvement devices and 17.08% of those related to internal-mental states, compared to Spanish and Italian deaf students, with 14% and 14.05%, respectively (see Appendix I and II).

When analysing the type of devices related to internal-mental states, the texts written by Italian students report a higher percentage of those referring to cognitive inferences and emotional states, with an average of 8.94% and 8.76% respectively, compared to those written by Spanish students with 6.86% and 6.56%. Considering the deaf/hearing status, hearing students use an average of 9.92% of cognitive devices while deaf students use 5.89%; conversely, the use

of emotional devices is slightly higher for deaf than for hearing students (8.16% and 7.16%, respectively).

On the other hand, when both factors are considered, deaf and hearing students from the Italian context show a higher use of both types of evaluation devices referring to internal-mental states. The greatest differences between deaf students are show in the use of this type of device, with 17.49% in the Italian context, compared to 10.61% in the Spanish context. This difference is not significant among hearing students (17.92% in the Italian group and 16.25% in the Spanish group). It is worth noting that as far as the use of cognitive devices is concerned, there are no differences between deaf and hearing students from the Italian context, while in the Spanish context it is the hearing subjects who stand out from their deaf peers.

Among the different types of social involvement devices, those related to intensifiers stand out with an average of 7.16%, followed by direct speech (M= 4.42%) and attention-getters: (M= 3.88%). Considering the deaf/hearing status, texts written by hearing students show a higher use of intensifiers (M= 9.15%) compared to those produced by deaf people (M= 5.16%) and attention-getters to a lesser extent (M= 4.34% compared to 3.43%) and sound effects and onomatopoeia (M= 1.72% compared to 0.88%). Considering the school context, it is found that the group of deaf and hearing students in the Italian context stands out in the use of social involvement devices (15.65% and 21.34% respectively, compared to 12.36% and 17.71% in the Spanish context) and, above all, in the use of attention-getters with an average of 5.47% compared to 2.3% in the group of Spanish students.

Conclusions

In general terms, considering the two school contexts - Spanish and Italian - there are no significant differences in the narrative structure of the texts. On the other hand, deaf and hearing students from the Italian context produce texts with a greater length in terms of number of clauses and sentences, as well as a higher syntactic complexity and a significant percentage of subordinate clauses. It is also found that this group makes more frequent use of both types of evaluation devices, both those relating to internal-mental states and those relating to social engagement, in comparison with the Spanish students.

In line with previous research (Teruggi & Gutiérrez-Cáceres, 2015, 2016), the development of textual and narrative skills of deaf and hearing students can be attributed to the didactic proposals implemented in the Italian school context, characterised by an active participation of students in social practices of reading and writing for authentic purposes. In such practices, students not only plan, transcribe and revise their texts, but are also provided with opportunities to reflect on the processes and strategies used during writing (Teruggi, 2019).

On the other hand, there is a close link between syntactic complexity and the use of evaluation devices. In particular, the use of devices related to internal-mental states involves the construction of subordinate clauses through the introduction of connectors such as "that", "because", etc. For example: "Tom, enfurecido porque había roto el bote de su rana"; "Pedro pensando que le había pasado algo"; "Il bambino cadde perchè si era spaventato"; "Il giorno dopo Filippo e Pallino si accorsero che dentro al barattolo non c´ era più il ranocchio".

It should also be noted that there are no significant differences between deaf and hearing students from the Italian context in terms of the use of subordinate clauses and the use of evaluation devices related to internal-mental states. On the other hand, in the Spanish context, the deaf students produce a higher percentage of coordinate clauses and it is their hearing peers who use more frequently both the evaluation devices related to internal-mental states and the social involvement devices.

It is noteworthy how the group of Italian deaf and hearing students produces a higher percentage of social involvement devices, in particular direct speech, attention-getters and intensifiers, in contrast to the Spanish subjects. The use of such devices is not only characteristic of narrative texts (Losh & Capps, 2003; Reilly et al., 2004), but is closely related to the writers' awareness of the potential reader of the text (Boscolo, 2002; Cisotto, 2007), a younger reader in this case. The ability to take into account the hypothetical reader is a skill acquired when students are used to producing texts in authentic communication situations, a skill that can be attributed to the type of teaching implemented in the school context.

Considering the school context as well as the deaf/hearing status, differences in the use of subordinate clauses are found in favour of the Italian context within the group of hearing students. There is also a higher proportion of subordinate clauses in texts written by Italian deaf students compared to those produced by Spanish deaf students. Similarly, it is in the use of devices related to internal-mental states where significant differences are found in favour of the Italian deaf, despite a greater hearing loss and a communication based on sign language on the part of the Italian deaf in contrast to the Spanish deaf. As far as the use of social involvement devices is concerned, the previous trend is confirmed, but with less marked differences.

As it has already been explained, the Italian context is characterised not only by its approach to teaching writing, but also by its bilingual model. In particular, sign language, in addition to being a curricular subject for all students, is conveyed through the presence of the Italian Sign Language interpreter throughout the school day, guaranteeing both effective communication and full inclusion of students. Contrary to the Italian context, the combined schooling model implemented in the Spanish context does not seem to guarantee the same opportunities for deaf students to learn both writing and sign language. In fact, Spanish deaf students usually use oral language as a communication system, unlike Italian deaf students who prefer to use sign language. According to Koutsoubou et al. (2006) and Van Beijsterveldt and Van Hell (2009), advanced level sign language skills can be transferred to writing. In this study, the impact of these skills is shown through the development of evaluation devices by Italian deaf students.

In conclusion, it is worth highlighting the need and interest to pursue research in order to deepen the analysis of the textual and narrative competences of deaf students, extending it to other participating individuals and considering the study of different bilingual school approaches. It is also considered a priority in this type of study to assess the link between the quality of written texts and the level of sign language proficiency.

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Appendix I. Examples of written texts in the Spanish context[ii]

Text 1

"Frog. Where are you?

Erase una véz un niño que tenía una rana en una pecera y su perro siémpre la estaba mirando. Cuando el niño se acostó la rana se salió de la pecera. Cuando el niño se despertó vió que la rana no estaba, se vestió y se asomó a la ventana.

El niño llamo a la rana: ¡Rana, rana, rana! Su perro metió la cabeza en la pecera, al asomarse a la ventana se cayó y rompió la pecera. El niño salió por la ventana y cogió a su perro, el perro le dio un lametón en la cara. El niño y su perro se fuerón a buscar a la rana por el bósque. Llegarón a un árbol, en una rama de ese árbol había una colmena. Y en el suelo había un agujero. El niño metió la cabeza en el agujero, de allí salió un topo y el niño se asusto ¡Aaaa! Luego fuerón a otro árbol y en ese árbol había un hueco, el niño metió la cabeza en el hueco y de allí salió un búho, se tiró al niño, el niño salió a correr y su perro también. Luego el niño se subió a una piedra gigante. Un reno cogió a el niño y se lo llevó a un lago, lo tiro con fuerza y a su perro también. Cuando cayerón a el lago, escucharón a varias ranas croar, detrás de un tronco que había flotando sobre el agua del lago. Los dos se subierón al tronco y vierón dos ranas adultas y varias ranas pequeñas, el niño cogio una rana y se la llevo a su casa.

FINAL." (Student B -deaf)

Text 2

"Rana dondé estas tú

Erase una vez un niño llamado Pedro que tenia una mascota pero esa mascota no era un animal domestico sino su rana Lidi. Un dia A primera hora del dia Pedro se levantoy empezo a jugar con Lidi y horas y horas hasta que se quedo dormido anda y se le olvido cerrar la tapadera del tarro de Lidi y Lidi se escapo.A la mañana siguiente Pedro se levanto y ¡bun¡ no estaba su ranita Lidi pues cogio a su otra mascota Scuth el perro y los dos desesperados buscaron.

1º buscaron debajo de la cama en sus botas etc.

2º se asomaron a la ventan y la llamaron unas 1000 veces: Lidi, Lidi, donde estas.

3º viendo que no la encontravan se asomaron mas y ¡ pon! Scuth se cayo y Pedro pensando que le habia pasado algo y corriendo el tambien bajo por la ventana y todo para que el perro estuviera bien.

4º fueron por todo él bosque buscando y buscando buscando en un arbol salio un buhó de repente salio volando hacia el suelo Pedro siguieron y siguieron buscando se subieron a una gran piedra con unas 2 ramificaciones de ramas y se subio a las ramas y dijo oye esto se mueve y se dio cuenta que era un ciervo corriendo a toda prisa.

El ciervo vio un barranco y penso que seria una buena forma de librarse de el entonces lo tiro y Pedro rodando con Scuth y ¡pon! cayeron a una charca y se oian sonidos de muchas ranas y penso que a lo mejor Lidi estaba allí entonces Pedro se volvio como loco buscando de nuevo llegaron a un tronco y se oia mas y Scuth ladrando y ladrando y Pedro le grito ¡Shhh! Callate Scuth y se metio dentro del tronco y oyo pasitos pequeñitos de ranitas se asomo y vio a Lidi con un macho rana y se apartaron y vieron a sus ranitas y Pedro se llevo a una cria y todos tan felices.

Fin." (Student M -hearing)

Appendix II. Examples of written texts in the Italian context[iii]

Text 1

"Frog, where are you?

C´era un bambino seduto per terra nella sua camera con il suo cane, guardando un rana in un barattolo, Tommy, il bambino, sembrò di innamorarsi della rana.

Ormai era tardi, Tommy e il suo cane, Buddy andarono a dormire. Nella profonda notte la rana, piano piano, uscì dal barattolo, andò via dalla casa di Tommy. Appena si svegliarono il bambino, volle subito vedere la rana, ma non la vide, era scappata.

Tommy inizió cercare Polly, la rana tra i suoi vestiti, ma non la trovò, il bambino si disperì. Iniziò a urlare "Polly! Dove sei?". Tommy e Buddy uscirono da casa, il bambino continuava a gridare per chiamare la rana, mentre il cane Buddy appena vide le Alpi, iniziò a giocare. Tommy si arrampicò su un albero che aveva un grande buco, il bambino sperava che la rana forse lì, ma non la trovò.

All´ improviso apparí un gufo: Tommy cadde, e il cane scappò dalle api che lo seguivano. Il bambino cercò di scappare da quel Gufo, si appoggiò una grande pietra. Il gufo si stufo, andò via, Tommy iniziò ad arrampicare, quando arrivò sulla cima della pietra, disse: "Rana, dove sei? Rana!". Buddy abbaiava.

all´improvviso sentirono che qualcosa lo facevano movere, erano seduti sulle corne di un cervo, l´animale si arrabbiò, iniziò a correre fino dove c´è lo stagno. Ci buttò lì, il bambino si bagnò e anche il cane. All´ improvviso sentirono il verso delle rane, Tommy zittí al suo cane che abbaiava. Il bambino inizió a seguire quel rumore, camminò, camminò, arrivarono vicino ad un tronco per terra, cercarono l´altra parte del tronco, trovarono due rane adulti, poi sputarono tante piccole rane. Buddy e Tommy si meravigliarono, iniziarono a cercare Polly, la loro rana, la trovò, finalmente! Salutarono la famiglia di Polly e andarono via con la piccola Polly." (Student D -deaf)

Text 2

"Rana, dove sei?

Un bambino che amava molto le rane, un giorno tornando a casa, non vide più la sua rana, allora andò a cercarla nel bosco e la trovò, la mise in un barattolo e tornò a casa sua. "rana sono stato veramente in pensiero per te, ma adesso torniano a casa dal mio cagnolino Billy" disse il bambino. Arrivato, mise il barattolo per terra e lo osservo insieme a Billy sopra il suo letto. Il bambino ormai era stanco allora si addormentò senza neanche accorgersene.

Era nottte fonda, la rana saltò fuori dal barattolo e scappò. Sabato mattina il Bambino andò per prendere la rana e si accorse che essa non c´era più, si mise a piangere e la cercò da tutte le parti, ma di lei non c´era traccia, Billy per cercare la rana, per sbaglio mise la testa nel barattolo e non riuscì a tirarla fuori. Tutti e due si incamminarono verso la finestra, affaciarono e la chiamarono "rana, rana, dove sei?". Billy aveva ancora la testa nel barattolo, lui voleva vedere ancora più lontano allora mise la testa completamente fuori dalla finesta, ad un certo punto cadde per terra. Il bambino corse subito da lui e disse "ti sei fatto male? va tutto bene?" il cane rispose "bau, bau,".

Il cane cadendo rompì il barattolo e così lui era libero, dovevano trovarla, dovevano forcerla. Si incamminarono alla volta del bosco, la cercarono, ma di lei non c´era traccia. Billy era un goloso, a lui piaceva molto il miele, ad un certo punto lui sentì un fortissimo adore di miele. Seguendo un odore andò vicino ad un albero, alzò gli occhi e vide un alveare, il cane cercava di buttarlo giù. Intanto il ragazzo guardò dentro una buca, venne morso da un topo allora se ne andò via, guardò dentro la cavità di un albero ma non c´era traccia di quella rana. Billy riuscì a buttare giù l´ alveare così tutte le api lo rincorsero, lui passò vicino al ragazzo e

lo buttò giù da quell albero. Erano molto stanchi, si appoggiarono su una pietra, ma un uccellaccio lo venne ad infastidire. Il ragazzo disse "via uccellaccio, via, via,". Salirono ancora più su in quella pietra il ragazzo si aggrappò a due solidi arbusti ma ad un certo punto si accorse che era un cervo, molto furioso, il ragazzo era finito nelle sue corna, esso prese la rincorsa e buttò il ragazzo in acqua, pure il cane.

Tutti e due erano bagnati fradici, ma ad un certo punto sentirono un rumore, capirono che era la rana saltarono su un tronco per vedere dall´altra parte, era proprio lei, Billy e il ragazzo si accorsero che la rana aveva una famiglia, capendo che una famiglia non si puo separare, se ne andò, però prima sentì un grande gracidio, per salutarlo." (Student R -hearing)

Notes

[i] This study has been carried out as part of the bilateral cooperation agreement between the universities of Milan-Bicocca and Almería, within the framework of the "José Castillejo" programme for the mobility abroad of young doctors.

[ii] The transcription of texts has been carried out respecting the original spelling and punctuation

[iii] The transcription of texts has been carried out respecting the original spelling and punctuation.