Conversational Skills in a Semistructured Interview and Self-Concept in Deaf Students

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The starting point for this study is the importance of linguistic competence in deaf students as part of their process of socialization and the formation of their self-concept. With the 56 deaf students who participated in the research, we consider the following sociodemographic variables: age, sex and degree of hearing loss, and the educational factor with respect to the mode of mainstream schooling. Self-concept was explored using the Spanish version of the Self Development Questionnaire (SDQ; I. Elexpuru, 1992) and the *TST-Who Am I?* test, adapted from M. H. Kuhn and T. S. McPartland (1954). To obtain the data for conversational competence, a conversation was held with a hearing adult. An explanation is given of the criteria for pragmatic analysis. The main results highlight the relationship between positive self-concept and most aspects of conversational competence. The study concludes with pedagogical procedures for integration, including specific strategies for teaching conversational skills to deaf pupils through nondeaf pupils and vice versa.

Progress in the knowledge of the effects of deafness has mainly focused on language acquisition and the related impact on cognitive development and academic achievement. However, the communicative functions of language, especially the effect of its lack on relationships with one's surroundings and therefore on social–affective evolution, have been the focus of very little study.

Studies into the manner in which deaf babies communicate in the family environment are well established, and in this sense, a major knowledge base is available for use in determining criteria for early intervention and language development with regard to deaf infants (Meadow-Orleans, Mertens, & Sass-Lehrer, 2002; Vinter, 1994). But this is not the case for older children. Specifically, for these stages, the studies supply data on linguistic development in the phonological and syntactic aspects of written and spoken language and even on the treatment of certain texts, especially narratives. However, there is a marked lack of study into the use of spoken language in relation to the environment and the development of conversational skills, all of which are necessary in developing guidelines for educational intervention (Marschark, Lang, & Albertini, 2002; Ramspott, 1992; Silvestre & Laborda, 2005; Silvestre & Ramspott, 2004).

There are only a few studies of social–affective development at school age that assesses the deaf child's competence for forming relationships with the environment of their hearing peers (Bat-Chava & Deignan, 2001; Preisler, Tvingstedt, & Alström, 2002).

In spite of the fact that one of the main objectives of the most common mode of schooling in Spain, mainstream, is the development of the social and conversational skills of deaf pupils with hearing ones, they do not form part of a specific program. In fact, the emphasis is mainly placed on morphosyntactic areas, on written language, and on academic performance, rather than on pragmatic aspects and social and affective development.

In our opinion, the areas that the mainstream mode needs to perfect are precisely those referring

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to the construction of the self-concept, social and affective development.

This study is therefore a response to the need to develop our knowledge of the conversational skills of deaf students and the way they influence social and affective development, in this case limited to the formation of self-concept.

What follows is a revision of the state of knowledge in relation to both issues and the possible relationship between the development of both psychological dimensions.

Conversational Skills at School Age

For both infants and school-age children, an interesting line of study is investigating the obstacles that hearing conversers create in communication with deaf children (Lederberg & Everhart, 2000; Lederberg & Prezbindowski, 2000).

First, from a Brunerian perspective, Wood's group at the University of Nottingham was one of the pioneers in demonstrating that there is a fairly general tendency for teachers to highly control their conversation when it is directed at deaf students. This control of the conversation occurs with very limited requirements for initiative or linguistic production on the part of the listener. Such highly controlled behavior involves asking for a yes/no answer or even a nonverbal response. It is the conversational use of open questions such as "What do you think about this?" that encourages the listener to continue speaking. The controlled method does not stimulate students to use spoken language (Wood, Wood, Grifiths, & Howard, 1986).

Other studies show how the teacher's communicative style also depends on their ideas, expectations, and knowledge of deafness and its effects on spoken language (Hyde & Power, 1999; Markides, 1989).

Therefore, although there are no results that explicitly demonstrate this, there can be no doubt that the communicative methods that a hearing adult adopts must have clear repercussions on the development of the conversational skills of deaf students. Which is where the aforementioned studies are of particular interest.

Second, there is another complementary line of research that is also relevant to the above, which is that investigating communicative requirements in the context of everyday life and which has emerged as a method for mastering the procedures for school integration. This area is particularly focused on the identification of communicative difficulties and the contexts in which they are produced, both with regard to deaf students and with regard to hearing ones as the way both groups are aware of the means for interaction depends on their communicative experience in a wide range of contexts.

Certain authors have used the "Ease Communication Scale" produced by Garrison, Long, and Stinson (1994), which requires deaf students to respond using six Likert-type alternatives as a means of examining communication. This is evaluated both from the cognitive point of view, relating to the amount of information that is received or given, and from the affective one, relating to how deaf people feel about their relationships with other people. Some of the most common communicative difficulties that these studies have highlighted are caused by conversations being too fast, unexpected changes of speaker, too many active participants in the conversation, overlaps, changes of subject, noise conditions in the classroom, and limited ability to clarify misunderstandings, solve disagreements, or lead conversations (Stinson & Antia, 1999; Stinson, Liu, Saur, & Long, 1996).

An ongoing study has also asked hearing peers of the same secondary school age about their communicative difficulties with deaf students; many of which are the same as those suggested by deaf students, such as overlaps. However, other difficulties emerge that deaf students do not suggest, referring to the content of conversations, such as a difficulty with speaking about intimate subjects or understanding jokes, subtle meanings, and so forth (Rom, 2006).

Third, a revision is made of the research that is more directly related with this study, that covering the specific analysis of the conversational skills of deaf students.

In terms of the ability of deaf students to produce spoken language, one of the most interesting focuses is the study of the functions of the language they use. It is common knowledge that most of these are produced in shared situations, in which there is an awareness of the importance of language in the interaction.

For example, in a study by Nicholas and Geers (2003) of communicative behavior in free-play situations, the following communicative functions are considered: respond, declare, ask, make somebody else do something, repeat or imitate, qualify, and unclear functions. The authors studied the behavior of 76 deaf participants aged between 1 and 4 years. The results showed that difficulties in the use of certain functions increased with age, such as the abilities to respond properly or ask questions, in comparison to the behavior of the hearing control group. The difficulty deaf participants have for asking questions has also been highlighted in other studies, such as the aforementioned example by Lederberg and Everhart.

Along similar lines, another consolidated line of study into communication skills is research into referential communication. This area covers all research in which communication skills are studied in situations of one-on-one exchange, where the participants communicate about references that are present, and in order to perform a certain task. These are situations that offer highly favorable communicative conditions and that do not generally appear in everyday life, such as known objectives and subjects, interindividual situation, and definition of whose turn it is to speak (Boada & Forns, 1999; Olivar & Belinchón, 1999). These are situations in which, when communicating with hearing colleagues, deaf participants are generally successful. However, studies of deaf students present certain difficulties, such as, the use of certain strategies that are of particular need in the role of receptor (Silvestre, 1987) or the interest in modeling the hearing converser in order to adopt useful strategies for survival in the classroom context (Lloyd, Lieven, & Arnold, 2005).

Similarly, a study by Jeanes, Nienhuys, and Rickards (2000) shows the difficulties deaf students, whether in the spoken mode of education or using sign language, have in the same situations of referential communication with hearing peers, mainly in the pragmatic functions of requesting clarification, responding to requests for clarification, and at times of communication breakdown.

Although there are some general conversational skills that are required for the proper development of any type of conversation, the conditions for each conversational context (number and characteristics of the participants, status of the same, aim of the conversation, etc.) condition the use of certain skills over others.

This study has opted for a semistructured interview-type conversational situation between a hearing adult and a deaf adolescent in which a priority is made of the use of certain basic skills, such as responding adequately and verifying comprehension of the message, rather than others that are required less frequently in this type of context, such as intervening in the conversation when not asked to do so and introducing new subjects.

Despite the differences between those presented in the context selected for this study and the aforementioned studies of referential communication, differences not only related to the speaker, in that communication is with a hearing adult and not a peer of the same age, but also related to the content as it is less scripted and contains references to elements that are not present, there are clear similarities between the conversational skills required in both types of context.

The choice of this type of communicative context in a primary study of the matter tells us more about the basic conversational skills that are needed by a young deaf person in important everyday life situations at school, such as interindividual learning situations, speech therapy situations, exams, and interviews, and in nonschool activities, such as job interviews and visits to the doctor.

Self-Concept

The issue of self-concept, however, has been the subject of numerous studies.

The first issue refers to how a deaf person integrates deafness in the construction of his or her own identity. As is commonly known, the construction of the self-concept depends on the socialization process, mainly in the family and with peers of the same age. Therefore, the way that the deaf child positively integrates his or her deafness and its implications into his or her self-concept greatly depends on the quality of the communication the child has with his or her surroundings and the dominant social representation of the deafness of the child in his or her immediate

environment and the social structure to which the child belongs.

In the early 1990s, a new concept emerged with respect to the possible identities of deaf people: identification with the deaf culture, identification with the hearing culture, and bicultural assumption. Both Cole and Edelmann (1991) studying adolescents and Bat-Chava, Robbins, and Lim (1992) studying adults agreed that the dual identity was more beneficial for the self-concept of deaf people than the hearing identity, and the latter study claimed that the deaf identity was the most positive.

Although it could be supposed that the deaf or dual identity is more easily developed in environments that are closer to the deaf culture (special schools for the deaf, families of deaf people, relationships with deaf communities, etc.), progress in integration procedures has shown that deafness can be integrated into a positive identity in hearing environments (Israelite, Ower, & Goldstein, 2002).

There is a group of studies that have researched the self-concept of deaf students, using the development of the same in hearing students as the reference point. Some of these do not suggest any major differences between the self-esteem of deaf adolescents and that of hearing ones (Cambra, 1994; Cates, 1991; Martínez & Silvestre, 1996; Powers, 1990; Wright, 1982). However, others suggest deaf students have difficulties creating a positive self-concept of themselves (Cambra & Silvestre, 2003; Ndurumo, 1985).

The discrepancies between the results of these studies can be attributed to different reasons, such as the heterogeneity of the instruments used. However, the fundamental explanation is the diversity of the deaf population, due to a combination of the many different variables that contribute to their psychological development. These include those variables whose effect has been studied the most in the educational environment: the type of schooling and the family environment and belonging to a deaf culture (Bat-Chava, 2000; Leigh & Stinson, 1991, respectively).

In terms of the family environment, the area that has traditionally attracted the attention of researchers has been the status of deaf and hearing children within the family, most agreeing that a deaf family environment tends to favor the construction of a more positive self-concept (Koelle & Convey, 1982; Yaschnich, 1986).

Although major progress has been made in family guidance and counseling, very few studies explore the influence of certain family characteristics and the formation of self-concept on deaf people. Warren and Hasenstab (1986) examined 49 deaf participants and their family environments and found significant relationships between the development of the self-concept and certain educational variables, such as rejection, overprotection, and discipline.

Since the 1980s, the gradual shift from segregated education for deaf students, from boarding schools and special schools to integration in ordinary schools, has led to several studies being made of the effects of school integration. Most of these studies present the positive effects of this integration, although some look in greater detail at what the most favorable school conditions are, highlighting the importance of supporting educational integration. Safarty and Kakza (1978), in a study of 14- and 15-year-old adolescents, found different effects in each type of school. The most positive for the self-concept of deaf students is that of having a group of deaf children at an inclusive school (which we have called the Preferential Group), followed by Individual Integration, and, finally, the most negative method, the special school.

However, other studies, such as Kent (2003) studying a sample of 52 deaf students aged between 11 and 15 years, educated in integrated schools, show that although there are very few significant differences in comparison with the hearing population, deaf students more frequently feel lonely or intimidated by colleagues.

In fact, the positive effects of integrated education depend on the support the center receives for making the necessary adaptations in order to optimize the integration of deaf students (Leigh, 1999). In a more recent study, Van Gurp (2001), using secondary school students, examined different aspects of self-concept and found that although students educated at integrated centers tended to have a higher academic self-concept, those who attended special schools had a higher social self-concept.

This study seeks to evaluate the different dimensions of the self-concept in the environment of

inclusive schooling in order for them to be related to communication skills.

Self-Concept and Communication Skills

There have been very few studies of the relationship between conversational skills and the self-concept at school stages. Some studies relate role-taking skills with areas of physiological development, such as cognitive development.

In terms of its relationship with social and affective development, Cates and Shontz (1990), in a study of 23 deaf participants aged between 7 and 14 years, found that role-taking skills were related to greater social adaptation and also with a better self-image. There are also a few studies of certain conditions that optimize conversation. For example, one study relates the conditions required for conversation, such as the intelligibility of speech, to a positive self-concept (Gustafson & Metz, 1994). However, there are no studies that directly relate the development of pragmatic skills to the formation of the self-concept in a consistent way.

However, it is widely understood that one of the factors that influence the construction of the self-concept is the quality of interaction with others. An awareness of the thoughts, experiences, and desires of other people makes it easier for one to understand oneself and vice versa. In the case of deaf people, a lack of conversational skills could undoubtedly affect the awareness of what others experience and their own internal worlds.

From this interactionist viewpoint, the main aim of this study is to help establish a possible relationship (one that has received very little attention until now) between conversational competence and the development of self-concept in deaf students and to suggest certain educational criteria for improving the development of both dimensions.

Although the general hypothesis is that both aspects do indeed mutually influence each other, it would be interesting to find out, more specifically, what conversational skills and obstacles are related in certain dimensions to self-concept.

The aim of the study is to relate conversational competence in the use of the pragmatic functions that are most commonly required in a semistructured interview: respond adequately, verify understanding, and so forth, as well as the pertinence of what is said, clear expression, responding to what is asked, and so forth, with an evaluation of the three dimensions of the self-concept: social, personal, and academic.

The specific objectives are as follows:

1. To create instruments for evaluating the conversational skills of deaf students, given the lack of studies involving instruments adapted for this population.
2. Evaluation of the conversational skills of deaf students using an interview situation with a hearing adult.
3. Evaluation of the self-concept of deaf students.
4. Identify some of the possible variables that influence the development of each dimension studied, specifically social-demographic variables, age, gender, and hearing loss, and those that refer to the type of schooling.
5. Establish the relationship between conversational skills in interview situations and self-concept.
6. Deduce some of the educational implications in order to improve the development of the conversational skills and positive self-concept of deaf students.

The proposed objectives will be attained by defining the area of study as follows:

1. Study of conversational skills. Three dimensions are considered:
   - Essential conditions for a conversation to be produced: intelligibility of the deaf students' speech and comprehension of the messages they receive.
   - The capacity to cooperate and move a conversation along.

Evaluation will be made of observance or transgression of the principles suggested by Grice (1979) and the capacity to move the conversation along. This will involve consideration not only of what the participants produce but also of what was produced before.

   - Purposes for the use of language (obtain information, make others do things, express feelings, etc.).

2. Study of self-concept. The concept of one's own self is a set of concepts. This study focuses on the three dimensions of self-concept: personal, social,

and academic self-concept, in accordance with the definitions established by the test used and the self-definition freely made by the participants.

Method

Participants

The sample for this study was extracted from a larger sample ($N = 221$, from 3–21 years old) that had participated in an earlier comprehensive study sponsored by the Government of the Autonomous Community of Catalonia. The aim of this study was to broadly assess the academic situation of deaf children in Catalonia. Due to the ambitious nature of the original study, it covered a wide range of domains from which we extracted those described in this article for a more in-depth analysis. The sample was chosen in accordance with the following criteria: all the subjects belonged to the public network of the Autonomous Community of Catalonia (Spain) and none of the deaf participants had additional disabilities.

In Spain, deaf children are generally integrated in ordinary schools with hearing students. In addition, in Catalonia, all deaf children receive a certain number of speech therapy sessions per week at their own schools, where professionals are generally given a special place to work.

The sample analyzed in this article was made up of 56 participants, 34 boys and 22 girls, aged between 6 and 18 years. All were diagnosed deaf before learning to speak and were born into hearing family environments. In terms of the level of deafness, 89.3% ($n = 50$) were profoundly deaf and 10.7% ($n = 6$) had moderate or severe hearing difficulties. All the participants use hearing aids, and none of them have cochlear implants. The sample was representative of two educative levels, primary school, with 30 subjects, and secondary school, with 26 students. In all, 89% of the latter group were studying at the normal education level for their ages, and only six pupils (four in primary and two in secondary) were studying at a lower academic level than would be expected for somebody of their age (an average of 3 years behind).

The performance of our 56 participants in a written language comprehension test was clearly below that of their hearing peers: they averaged 2.55 points (out of 4) below their peers in primary education and 0.37 (out of 5) below those in secondary education.

Table 1 Description of the sample: by ages

Age	*n*	Mean	Standard deviation	Standard error mean
0	30	10.00	1.124	0.251
1	26	14.65	1.325	0.260

Note. 0 = primary, 1 = secondary.

All families had chosen the option of oral communication, and so, all the children had been educated in oral modality settings since being diagnosed deaf. Every one of the subjects attended integrated schools using oral communication. As we stated above, deaf children in Spain are generally integrated in classes with hearing students. This integration can be of two types: (a) the Preferential Group, in which we have more than three deaf students in the same school, and (b) Individual Integration in ordinary schools, in which there are one or two deaf students. In this study, we have 10 children who attended schools of the Preferential Group and 46 who attended in the second type of integrated schools (see Tables 1 and 2).

This sample was extracted from the larger one by selecting children educated in oral environments. (This group represents 90% of the deaf children in Catalonia.) In terms of age, children were selected from primary school age (from 6 years) and older. This was done under the understanding that children of this age have had enough experience of the kind of conversation studied here.

Procedure

As stated earlier, this study extracts part of the assessments already made in a more extensive study. This

Table 2 Description of the sample by mode of schooling and hearing loss

	Integration in the Preferential Group (count)	Individual Integration or with few deaf pupils (count)
Hearing loss		
Moderate	0	2
Severe	1	3
Profoundly deaf	9	41
Total	10	46
N	56	

is due to the major interest of making a more in-depth analysis of communication and self-esteem relationships.

All participants were recruited by first making contact with CREDAS (the specialized and public centers that offer weekly speech therapy sessions to deaf children in Catalonia). Their parents were then informed about the procedure and objectives of the research and supplied written consent.

Each child was assessed in the speech therapy offices of their own schools. All participants were tested in spoken language as that was their preferred communicative option.

Each assessment session began by introducing the evaluation. A teacher or speech therapist with whom the child was familiar introduced the researcher and explained to the child that he or she would be working with this new teacher for that day. For very young children, the more familiar teacher stayed for the early moments of the evaluation in order to guarantee that the child felt comfortable. All adults were hearing.

After a warm-up period, conversation and self-esteem were evaluated: Having worked together for an hour on language and cognitive assessment tasks, the adult suggested to the child that they take a break and have a little chat to relax.

All 56 participants' conversation situations were recorded on video with the consent of the participants. The self-esteem questionnaire is only applicable from 8 years old and was therefore only done by 46 subjects. The *TST-Who am I?* test (Kuhn & McPartland, 1954) was administered only to the secondary school group ($n = 26$).

Conversations were later transcribed by a team of four, all of whom had experience with educating deaf children. All decisions regarding transcription and codification were made by consensus. Wherever nobody was able to understand a message, the failure to understand was noted in the codification.

Instruments

Conversation situation. The conversation situation began as a pause in the midst of the evaluation process. The child and researcher were engaged in a conversation prompted by the latter. The researcher was provided with the support of a script to help start and maintain the conversation, but after that, the conversation continued in a more or less spontaneous fashion depending on how engaged the child was. These suggested questions were related to different subjects that were close to the children taking part, such as, school (e.g., What subjects do you find hard?), friends (e.g., Who are your best friends?), and teachers (e.g., Which teacher do you like best? Why?). All the interviews were fully recorded on video and then transcribed. The first 50 statements made by each participant were taken to standardize the amount of the conversation to be used later in codification.

Cuestionario de Autoconcepto SDQ. The original SDQ scale of Marsh (1988) was adapted into Spanish by Elexpuru (1992) and validated by González Torres, Tourón, and Gaviria (1994). An adaptation for deaf and hard of hearing individuals by Cambra (1994) was used in our study. This is a questionnaire for participants aged between 8 and 18 years. The adapted test contains 23 true or false questions as shown in Appendix A. Children were asked to sincerely answer the questions posed by crossing the words *true* or *false* at the end of each statement on the questionnaire. The results provided two types of score: (a) partial scores with respect to *academic self-concept* (5 items), *personal self-concept* (6 items), and *social self-concept* (12 items) and (b) the total score (which covers all 23 items).

Twenty-Statement Test TST-Who am I? Since it was designed, the TST (Kuhn & McPartland, 1954) has been widely administered in research on self-conception. In our study, this test was administered to the secondary population (12 years onward, $n = 26$). Children were asked to define themselves by providing 20 written answers to the question "Who am I?" Afterward, these written answers were coded by trained experts. To categorize the answers (see Table 3), we used an adaptation made earlier for people with hearing difficulties (Martínez & Silvestre, 1996).

Transcription and Codification Procedure

The conversations were recorded and then transcribed and coded. This process used The Child Language Data Exchange System developed by Brian MacWinney and Snow (1985, updated version in 1990) using the CHAT system for transcription and the CLAN programs for the codification process.

Table 3 Categories of analysis of the *TST-Who am I?*

ECI	Civil status
RE	Statutory references
RAB	References to abstract categories
AD	References to the future
CP	References to body and appearance
GA	References to tastes and activities
AM	References to same-age friendships
AMO	References to hearing friends
AMDEF	References to deaf friends
AMDUAL	References to deaf-hearing friends
F	References to family
FO	References to hearing family
FDEF	References to deaf family
ES	+ or − evaluation of personal and social situation
RP+	Personality traits (+)
RP−	Personality traits (−)
RDP	Other personality traits
DEF	References to deafness

Results

The following are the results obtained in the dimensions of study: conversational skills, self-concept, and interrelationship between both.

Conversational Skills

Description of the results.

Conversation conditions: intelligibility and comprehension. We considered two aspects to be essential conditions for conversation: First, what was produced had to be intelligible to the adult, and second, the participants had to understand the things being said. In this sense, it was observed that 74% of the exchanges met these conditions; in other words, the participants understand what is said to them and respond in an intelligible fashion. Only 14% of the statements were unintelligible, and 12% were not understood. It must be added that of the latter, 21% were understood once the statement was restructured and 22% were partially understood.

Correction and types of correct responses. Of the total, 70% of the statements were correct responses. These statements were categorized into three groups: literal responses, responses that added information, and statements demanding verification (see Table 4).

The vast majority of the correct productions were strictly adequate responses to the question, which is what is called an adequate literal response (74.91%), 16.61% added more information, and a minority (8.48%) said that the question had not been understood or verified its meaning (see Table 5).

Transgressions in the conversation. Most of the transgressions in the conversation involved a disorganized or ambiguous statement that prevented full comprehension of the message (47% of the inadequate statements). To a lesser extent, and in almost equal

Table 4 Examples of the criteria for categorizing the type of correct response

Types of correct responses	Examples
Responds literally to the question	*INV: so what do you want to be, what would you like to be? *MJA: ah I'd like to be (pause) an administrative worker. *INV: yes?
Shows lack of understanding or asks for the question to be confirmed	*INV: and what do you do, what do you do down there? *JEG: in the workshop? *INV: yes, in the workshop, what do you do down there? *JEG: I work with wires. *INV: listen, now we can talk a while, what do you think about talking for a while (note: "*estona*" in Catalan) *MJA: a story? *INV: a while (estona). me and you can talk for a while because you have come here and I don't know you!
Adds information to the response	*INV: you don't want to study? *JEG: no (pause) I find it very hard.

Table 5 Descriptions of correct answers in the conversation

	N	Minimum	Maximum	Sum	Mean	Standard deviation	Variance
Misunderstanding or confirmation	56	0	13	167	2.98	2.812	7.909
Adequate literal	56	0	117	1,475	26.34	20.108	404.337
Add information	56	0	39	327	5.84	6.591	43.4046
Valid *N* (listwise)	56						

amounts, there were transgressions as a result of not responding exactly to what was asked, in 17% of the inadequate responses, responses that did not relate to the question (16% of the inadequate responses) or that did not answer the question (15.71%). Finally, the least common transgression was that of only partly responding to the message (3.61%, see Table 6).

Language functions. As for the purpose of the statements, the most frequent language function was to provide information (52.7% of all statements), although a wide variety of other functions were used to a lesser extent, the most important of which was expressing one's own opinion (11%) or saying that something was not understood (5%, see Table 7).

The relationship between conversational skills and social-demographic and the type of schooling variables. First, we verified that there are no significant differences between the two types of schooling groups regarding age ($t = -0.877$, $p = .385$) and hearing loss degree ($t = -1.356$, $p = .187$). An analysis was made that correlated the scores for the conversation with variables of age and hearing loss. Age is positively related to progress in the intelligibility of speech, reduction of transgressions of conversational norms, and an increase in adequate responses that expand on the information as strictly requested. As children get older, there is also an increase in the use of strategies for moving the conversation along, such as expressing misunderstanding, using language to request information, influencing the other, and facilitating conversation by means of expressions of courtesy (see Table 8).

As can be seen in Table 8, the degree of deafness significantly influences the number of misunderstandings, the more profound the deafness, the more misunderstandings there are, even when the speaker reformulates the question. The unintelligibility of the messages also increases as the deafness becomes more profound.

The comparison of the average (t test) scores for children in the conversations does not suggest any differences between the two groups.

However, significant differences are observed between the two modalities used for integrating the pupils at schools. The group that is integrated individually or with few other pupils ($n = 46$), in comparison to the preferentially integrated group ($n = 10$), has a greater number of misunderstandings, even when the speaker reformulates the question; a greater number of initiatives to maintain the conversation; a greater number of responses that express misunderstanding or confirm the question; as well as more statements that express one's own opinion (in all cases $p = .05$).

Self-Concept

Description of the results.

1. Self-concept questionnaire. There are no major differences between the results for the self-concept questionnaire (academic, social, and personal),

Table 6 Description of responses that involve transgressions of conversational rules

	N	Minimum	Maximum	Sum	Mean	Standard deviation	Variance
Does not respond to the request	56	0	8	74	1.32	2.064	4.258
Does not respond to all that is asked	56	0	3	17	0.30	0.658	0.433
Does not respond exactly to what is asked	56	0	15	82	1.46	2.479	6.144
Responds with irrelevant things	56	0	11	76	1.36	2.203	4.852
Ambiguous or disorganized form	56	0	37	222	3.96	6.467	41.817
Valid *N* (listwise)	56						

Table 7 Description of the language functions used by the participants in the conversation

Functions	*N*	Minimum	Maximum	Sum	Mean	Standard deviation	Variance
Obtain information	56	0	14	82	1.46	2.783	7.744
Make the other do something	56	0	3	9	0.16	0.532	0.283
Courtesy	56	0	3	17	0.30	0.711	0.506
Expression of emotional states	56	0	4	26	0.46	0.894	0.799
Express one's own opinion	56	0	20	295	5.27	5.303	28.127
Provide new or repeated information	56	2	114	1,422	25.39	18.480	341.516
Playful interaction	56	0	5	13	0.23	0.831	0.691
Showing lack of understanding	56	0	12	139	2.48	2.635	6.945
Confirmation	56	0	59	611	10.91	11.026	121.574
Others	56	0	8	83	1.48	1.982	3.927
Valid *N* (listwise)	56						

although the personal one as a whole has a slightly higher score (see Table 9).

2. The self-definitions taken from the TST-Who am I? test coincide fairly well with those of previous studies (Martínez & Silvestre, 1995; Cambra 2005). This suggests that, for self-definition purposes, participants tend to refer to tastes and activities and to their own bodies, rather than to psychological traits (see Table 10).

Relationship between self-concept and social-demographic and the type of schooling variables. The age variable inversely correlates with the academic self-concept of the self-concept questionnaire ($r = -.324$, $p = .028$). However, there is no correlation with the aspects evaluated in the *TST-Who am I?* test. In the latter, there are significant results in relation to the degree of hearing loss; the higher this is, the more references there are to tastes and the family. However, the degree of hearing loss does not significantly relate to the questionnaire results.

As for the gender variable, a tendency is observed in the signification ($t = 2.043$, $p = .051$) relating to the number of references to the family, boys issuing more statements in this respect than girls.

Finally, the analysis according to the type of schooling could only be performed with the results of the self-concept questionnaire, without there being significant differences between the groups (integration in Preferential Group and in Individual Integration or with few other deaf pupils). In the *TST-Who am I?* test, the nonhomogeneous distribution of the sample in the two integration groups made analysis impossible.

Analysis of the Results: Relationship Between Conversational Skills and Self-Concept

The following are details of the process used for the study of relationships between conversational skills and self-concept. A bivariate correlational analysis was made between the four possible scores for the questionnaire and the scores (counting behavior involving comprehension, intelligibility, transgression, etc.) for the conversation. The *n* of this analysis was 46, given that 10 of the initial subjects did not do the self-concept questionnaire. Meanwhile, a similar analysis was made of results for the *TST-Who am I?* test, with the population that answered that test, namely, the secondary schoolchildren ($n = 26$).

Conversational skills and global and social self-concept. The low scores for both the global and social self-concepts correlate with a larger number of inadequate responses throughout the conversation ($r = -.412$, $p = .036$; $r = -.524$, $p = .006$, respectively) as well as a greater number of responses in which pupils do not provide all the information asked of them ($r = -.403$, $p = .005$ for social self-concept and $r = -.403$, $p = .005$ for the global one).

Conversational skills and academic and personal self-concept. Conversational difficulties that consist of not responding with all the information required by the question inversely correlate with the scores for academic self-concept ($r = -.409$, $p = .005$) and personal self-concept ($r = -.335$, $p = .045$). Similarly, a better personal self-concept is related to a greater number of comprehensions when amendments take

Table 8 Correlations between age, hearing loss, and conversational skills

	Age_year	Hearing loss
Age_year		
Pearson correlation	1	.103
Sig. (bilateral)		.449
N	56	56
Hearing loss		
Pearson correlation	.103	1
Sig. (bilateral)	.449	
N	56	56
Intelligibility: not understood what is said		
Pearson correlation	−.376**	.047
Sig. (bilateral)	.004	.728
N	56	56
Comprehension: not understood despite rephrasing		
Pearson correlation	−.259	.389**
Sig. (bilateral)	.053	.003
N	56	56
Control of conversation: repeats researchers' request		
Pearson correlation	.254	.382**
Sig. (bilateral)	.058	.004
N	56	56
Control of conversation: responds to open questions		
Pearson correlation	.278*	.065
Sig. (bilateral)	.038	.634
N	56	56
Initiatives of same conversational theme		
Pearson correlation	.522**	.094
Sig. (bilateral)	.000	.492
N	56	56
Transgressions: does not respond to what is asked		
Pearson correlation	−.343**	−.046
Sig. (bilateral)	.010	.735
N	56	56
Transgressions: does not respond to all that is asked		
Pearson correlation	.366**	.036
Sig. (bilateral)	.006	.791
N	56	56
Transgressions: responds with irrelevant answer		
Pearson correlation	−.516**	.058
Sig. (bilateral)	.000	.673
N	56	56
Transgressions: responds ambiguously or in disorderly way		
Pearson correlation	−.284*	.017
Sig. (bilateral)	.034	.900
N	56	56
Adequate response to show lack of understanding or to confirm question		
Pearson correlation	.435**	−.071
Sig. (bilateral)	.001	.605
N	56	56

Table 8 Continued

	Age_year	Hearing loss
Adequate response: adds information		
Pearson correlation	.374**	−.146
Sig. (bilateral)	.005	.283
N	56	56
Function: obtaining information		
Pearson correlation	.290*	−.006
Sig. (bilateral)	.030	.967
N	56	56
Function: courtesy		
Pearson correlation	.512**	.101
Sig. (bilateral)	.000	.461
N	56	56
Function: expresses opinion		
Pearson correlation	.508**	.052
Sig. (bilateral)	.000	.701
N	56	56

*The correlation is significant at level .05 (bilateral). **The correlation is significant at level .01 (bilateral).

place ($r = .299$, $p = .043$) and a lower number of attempts to change the subject of conversation ($r = -.297$, $p = .045$). The best scores in terms of academic self-concept were positively related to fewer requests for the speaker to repeat what they had said ($r = -.409$, $p = .005$) and a lower number of inadequate responses throughout the conversation ($r = -.297$, $p = .045$).

As a whole, well-established relationships appear between the most outstanding conversational skills and positive definitions of self-concept.

Conversational skills and preferences in self-definition. It is not easy to evaluate the relationship between conversational skills and the preferences the participants put forward in their self-definitions: First, there are a multitude of categories in each dimension, and second, these categories are qualitative, especially in the case of self-definition. Thus, the statistically significant relationships found in the correlational analysis are difficult to interpret. An example of such a relationship is that between the preference for statements about the hearing family and the use of communication to express one's own opinion ($r = .471$, $p = .015$).

However, some clear relationships are established. The most outstanding are those that exist between the preference for self-definitions concerning positive psychological traits or psychological traits in general, or elaborate self-definitions (elaboration that increases with age) with conversational strategies that represent good conversation management. Examples of such conversational strategies are the request of information ($r = .405$, $p = .040$) or the use of language in a leisurely way ($r = .831$, $p = .000$), which can be interpreted as conversational comfort. These statements agree with the results shown in the previous section comparing self-concept and conversational skills.

Table 9 Results for the Elexpuru self-concept test (adapted by Cambra, 1994)

$n = 46$	Academic self-concept	Social self-concept	Personal self-concept	Total score
Average scores out of a maximum of 10	7.04	7.68	7.97	7.68

Table 10 Results of the *TST-Who Am I?* test[a]

	ECI	RE	RAB	AD	CP	GA	AM	AMO	AMDEF	AMDUAL
n										
Valid	25	25	25	25	25	25	25	25	25	25
Lost	1	1	1	1	1	1	1	1	1	1
Average	1.68	0.16	0.00	1.12	5.16	6.88	1.52	0.12	0.20	0.00
Standard deviation	1.842	0.374	0.000	1.666	4.259	3.982	1.046	0.600	0.408	0.000
Variance	3.393	0.140	0.000	2.777	18.140	15.860	1.093	0.360	0.167	0.000
Minimum	0	0	0	0	0	0	0	0	0	0
Maximum	6	1	0	7	14	16	4	3	1	0
Total	42	4	0	28	129	172	38	3	5	0

	F	FO	FDEF	ES	RPPOS	RPNEG	RDP	DEF
n								
Valid	25	25	25	25	25	25	25	24
Lost	1	1	1	1	1	1	1	2
Average		0.12	0.32	0.76	0.68	0.24	0.36	0.79
Standard deviation		0.600	1.600	1.165	0.945	0.523	0.907	0.884
Variance		0.360	2.560	1.357	0.893	0.273	0.823	0.781
Minimum		0	0	0	0	0	0	0
Maximum		3	8	4	3	2	4	3
Total		3	8	19	17	6	9	19

[a]See Table 3 for definitions of the categories written in abbreviations.

Discussion

The first contribution of this study, given the lack of knowledge in this respect, consists of the detailed evaluation of the conversational skills of the deaf students under study, highlighting, on the one hand, an acceptable global competence in the studied context and, on the other, the specific difficulties of the type of transgressions of the principles of conversation, the most relevant being the one that has been defined as a disorganized or ambiguous expression.

Meanwhile, the study also highlights the lack of productions that are aimed at getting information, which coincides with the results of other aforementioned studies (Nicholas & Geers, 2003; Silvestre, 1987), although for different ages and contexts.

In this sense, it should be stated that the conversational context in which the data were obtained, free conversation between a hearing adult and a deaf participant, promotes the use of certain language functions above others, meaning that for the deaf students there was a predominance of information- and opinion-giving functions while there was far less frequent usage of productions aimed at obtaining information or expressing emotions.

The characteristics of the context studied, closer to an interview structure than a totally free conversation, made it less likely for the kind of difficulties mentioned above for other contexts to appear. In an interindividual adult/student relationship, moments when each person speaks are clearly structured, so difficulties in taking turns to speak or the possibilities of losing the thread of the conversation or for overlapping were very scarce.

However, an interindividual relationship favors the use of functions that appear far less frequently in group situations, but which are totally necessary for moving a conversation along, such as verifying meanings or solving misunderstandings (27.80% of the studied productions), which can greatly develop conversational skills with which deaf students may have difficulties, such as showing that they did not understand something or expressing themselves clearly.

So, in terms of the conversational skills of deaf pupils, this study has developed a tool for analysis that is, firstly, useful in the studied context and that is, secondly, applicable through adaptation to other

contexts. Also, we have identified the most common difficulties faced by deaf pupils in the given context and highlighted the conversational skills that are of most use in this communicative situation.

As for results relating to self-concept, and due to the adaptation used for the deaf population, it is not possible to make comparisons with hearing populations, although we can evaluate the homogeneity between the three studied dimensions of the self-concept.

An analysis of social-demographic variables that could influence the development of the studied dimensions suggests that, and in agreement with the existing literature, age has a positive effect on the development of conversational skills but not for the consolidation of a positive self-concept because this decreases with age specifically in its academic dimension.

This result can surely be interpreted in terms of two characteristic facts relating to the stage of life being studied. The first is the identity crisis that tends to emerge during adolescence, and the other is the greater complexity of academic content and the decisions that have to be made at the end of this stage in relation to academic itineraries that are socially evaluated to differing extents, such as education cycles and examinations.

As for the degree of deafness, the fact that the sample is fairly homogeneous in this respect, as it consists of severely and profoundly deaf participants, certainly has an effect on the way that the results with respect to conversational skills are very clear. In other words, it affects what have been called indispensable conditions for communication, intelligibility and oral comprehension, but could also influence the fact that there are no significant differences between the types of conversational difficulties that the participants face or between privileged linguistic functions.

The composition of the sample can also be blamed for the fact that the degree of deafness has no significant influence on self-concept, although, as has been said, differences are observed in terms of preferences in the definitions.

In this study, the few differences found in the participants' results in terms of the type of schooling are not easy to interpret. One of the possible explanations is the heterogeneity of the sample in this respect as the number of participants in Individual Integration at school, the largest group in Catalonia, is considerably greater than the number of participants in Preferential Groups. However, the normality of the results found in a sample made up of pupils integrated in ordinary schools indicatively serves, on the one hand, as confirmation of the data proceeding from other studies as mentioned earlier with respect to the goodness of integrating environments for the development of self-concept (Safarty & Kakza, 1978; Van Gurp, 2001) and, on the other hand, for contributing new data that favors the positive effects of integrating environments on the development of the communication skills of deaf pupils.

Finally, the contributions with respect to the positive verification of our initial hypothesis with respect to interrelationships between the conversational skills developed in the context of a semistructured interview with deaf pupils and such a fundamental aspect of social and affective development as is self-concept lead to the suggestion of certain lines for educational intervention.

In terms of the line of study, we should first stress the importance of stimulating, in deaf students, the development of the basic abilities relating to the two psychological dimensions. Indeed, knowledge of one's own mental states and experiences and those of others constitutes one of the fundamental pillars both for the development of pragmatic abilities (in order to converse one must be able to see things from the point of view of the speaker/converser) and for being able to elaborate upon the experiences, beliefs, and metal states that contribute to the formation of the self-concept.

Although schools continue to focus on the instructional and academic aspects of learning, they are beginning to realize the need to introduce activities in classroom time that encourage pupils to think about emotional and mental processes (Sastre & Moreno, 2001). This area of education is indispensable for all pupils, but especially in the case of deaf ones who, through the lack of stimuli and due to the very characteristics of the language being used (a lexical-mentalist one with less perceptive reception), could come across difficulties.[1]

Along with the strategies that could be derived from the aforementioned area of education involving consideration of one's own mental states and processes as well as those of others, other lines could be suggested

with more specific objectives with respect to the formation of self-esteem and self-concept, some of which can be applied directly to deaf pupils, such as those suggested by Grimes and Prickett (1988) and Schmitt (1972) that relate to the use of instructional television.

Regarding the stimulation of conversational skills in the strictest of linguistic senses, the revision made above provides evidence that the ideas, knowledge, and communicative styles of teachers with respect to deaf pupils constitute the key element for any innovation in this respect.

The results of the study are highly suggestive in terms of the evaluated skills that need to be strengthened. These are, mainly, precise and not ambiguous expression, recognizing what is spoken as a question and properly responding to what is asked. In terms of the use of language, considerations must be made of the need to use it for all purposes, especially those that move a conversation along and overcome misunderstandings. In this sense, we should consider the fact that these pupils may not be familiar with the lexicon required for this kind of interaction. For example, deaf boys and girls may not know the expression "I want" or may not link it to the effect that is produced when those two words are spoken. When this happens, they may lose interest in the interaction that they are supposed to take part in.

This area of educational intervention undoubtedly requires intervention in other communicative group contexts, where there are more speakers and hearing peers. The identification of difficulties makes it possible to organize activities that teach about mutual adaptations involving deaf and hearing pupils. It is commonly agreed that communication between same-age peers involves other functions than communication with an adult. In the latter, interactions tend to be shorter and there is a predominance of question and answer structures. But between peers, there tend to be more declarations, comments, and debates (Lloyd, 1999).

Leisure activities can be organized in which the participants must exercise certain communicative skills. An example of this kind of intervention is what is being done at the University of Arizona as part of Project Interact to facilitate communication between deaf and hearing children in infant schools. Through different activities, evaluations are made of immediate results, the generalization of the results over time and in other contexts, and the implication of teaching staff (Antia & Kreimeyer, 1996). Cooperative activities also enable greater use of such communication skills as leading conversations, sorting out misunderstandings and expanding on what is said (Miller, 1994).

So, there is a need to diversify communicative contexts, from the family, school, and speech therapy room, so that deaf pupils can use the full variety of functions of oral language and in different roles.

Appendix A

Name School year

1	Studying is easy	True	False
2	I like my body (face, hands, . . .)	True	False
3	When I have a problem, I ask	True	False
4	My teacher does not think I am nice	True	False
5	I prefer being alone to being with friends	True	False
6	I am ugly	True	False
7	I think the children in my class like me	True	False
8	I am nearly always nasty to other people	True	False
9	I do not study very much	True	False
10	It is difficult to make friends	True	False
11	I do a lot of things badly	True	False
12	Boys and girls want to play with me	True	False
13	The teachers treat me well	True	False
14	I often get angry with my classmates	True	False
15	I like wearing nice clothes	True	False
16	When I fight with somebody, I talk to them afterwards	True	False
17	I get bad marks	True	False
18	Boys and girls want to work with me	True	False
19	There are things about my body that I don't like	True	False
20	I like the way I am	True	False
21	The boys and girls in my class are my friends	True	False
22	I do not play with my classmates very much	True	False
23	I want to have more friends like me outside of school	True	False

Note

1. In the field of study of the development of the Theory of Mind, it has been suggested, in successive studies, that deaf pupils from hearing families are slower to develop the abilities included in this dimension (Deleau, 1996; Peterson & Siegal, 1995).

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