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PERCEPTION OF EDUCATIONAL INCLUSION AND COMMUNICATIVE BARRIERS FROM THE EXPERIENCE OF DEAF STUDENTS OF SCHOOLS AT SINCELEJO CITY IN SUCRE, COLOMBIA

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Abstract. This article has as purpose of study the perception of inclusion that students with hearing disabilities have who are registered in the municipality of Sincelejo, Sucre, Colombia according to the registering system SIMAT. Having in mind the purpose of study, the type of research design is qualitative, exploratory, non-experimental. It is an exploratory study because it examines a little studied topic and looks for the comprehension of it; non-experimental because the subjects under study (deaf students) already belonged to the identified group who were inquired about the perception of inclusion in their natural context to analyze after this without manipulating variables. Because of the mentioned type of research, it was decided to design and apply data collecting techniques as interviews and LIKERT-type closed question questionnaires, as well as the literature revision related with deafness, inclusion and education in school students with hearing disability. Once collected the information, an statistic analysis was performed and the policy of inclusion was formulated with its respective actors, indicators, among others. Finally, the conclusions and respective recommendations were consolidated to implement in a successful way the inclusive education policy.

Keywords: Communicative Barrier, deaf, deafness, inclusion, perception.

PERCEPCIÓN DE INCLUSIÓN EDUCATIVA Y BARRERAS COMUNICATIVAS DESDE LA EXPERIENCIA DE LOS ESTUDIANTES HIPOACÚSICOS DE LAS INSTITUCIONES EDUCATIVAS DEL MUNICIPIO DE SINCELEJO – SUCRE, COLOMBIA

Resumen. Este artículo tiene como objeto de estudio la percepción de inclusión que tienen los estudiantes con discapacidad auditiva o hipoacusia matriculados en el municipio de Sincelejo, Sucre, Colombia, según el Sistema de Matriculas Estudiantil (SIMAT). Teniendo en cuenta el objeto de estudio, el tipo de diseño de la investigación es cualitativa, exploratoria, no experimental. Es un estudio exploratorio, porque examina un tema o problema poco estudiado y pretende aumentar la comprensión del mismo; no experimental, porque los sujetos de estudio (estudiantes hipoacúsicos) ya pertenecían a un grupo identificado, a los cuales se les indagó acerca de la percepción de inclusión en su contexto natural para después analizar su nivel de inclusión, sin llegar a manipular las variables. Por el tipo de investigación mencionado, se decidió diseñar y aplicar técnicas de recolección de datos como entrevistas y cuestionarios de preguntas cerradas tipo LIKERT, así como revisión bibliográfica relacionada con la hipoacusia, la inclusión y la educación en escolares con discapacidad auditiva. Una vez recopilada la información, se realizó un análisis estadístico y se procedió a formular la política de inclusión con sus respectivos actores, indicadores, entre otros. Finalmente, se consolidaron las conclusiones y respectivas recomendaciones para lograr implementar de manera exitosa la política de inclusión educativa.

Palabras clave: barrera comunicativa, hipoacusia, inclusión, percepción, sordos.

Introduction

In Colombia, the National Institute for the Deaf-INSOR periodically prepares statistical reports on deaf people, both at the national and municipal levels, related to education, work, health and participation. For INSOR, examining the situation of access to education for the school-age deaf population involves considering those factors that allow or hinder entry and permanence in the educational system, such as gender, age, stratum, geographic area of residence, and public or private education, among others. The indicators on which INSOR is based are consolidated from two sources of information: the Registry for the Location and Characterization of Persons with Disabilities -RLCPD- of the Ministry of Health and Social Protection, from which some features of the registered deaf population of school age will be identified; and the Student Enrollment System -SIMAT- of the Ministry of National Education, which allows establishing the educational characteristics of the deaf population enrolled.

With respect to the municipality under study, Sincelejo, in the last census conducted by DANE in 2005, 253 people with hearing limitations of school age (3-17 years) were reported, but, for the year 2015 the SIMAT reports that in the 15 educational institutions available for the attention of deaf students, 71 students with hearing limitations were enrolled. This is due to the fact that according to INSOR *"the percentage of the deaf school-age population that attends an educational institution is 70%, and the percentage that does not attend an educational institution is 30%. Therefore, 30 out of every one hundred school-age children do not attend an EI"* (INSOR, 2018). This situation arises because the *deaf person considers that, due to his condition, he/she cannot develop school activities.*

For the year 2005, in Colombia, Law 982 is published, which establishes norms tending to equalize opportunities for deaf and deaf-blind people and other provisions are issued, which is dedicated to education in Chapter III, and determines that:

"The National Government and territorial governments shall respect linguistic and communicative differences in educational practices, promoting quality bilingual education that responds to the needs of deaf and deaf-blind students to guarantee access, permanence and promotion of this population in

formal and non-formal education, in accordance with the regulations issued for this purpose by the Ministry of National Education."

Despite these and other legal provisions in force that seek to guarantee the right to education for deaf people, the conditions are not fully in place for those directly affected to receive quality education whenever they require it.

This article originates as a result of one of the specific objectives formulated in the thesis of the Doctorate in management and educational policy, whose object of study is the formulation of an educational policy to ensure the effective inclusion of deaf students in Colombian basic education. Thus, the experiences of educational inclusion in the different educational institutions that offer services to hearing impaired students in the municipality of Sincelejo were analyzed from the perspective of hearing impaired students, in order to determine the satisfaction of deaf students regarding the attention and services offered by the educational institutions, perceptions that allowed proposing the basic elements of an educational policy for the inclusion of hearing impaired students in elementary and secondary education in the municipality of Sincelejo - Sucre.

Method

Type of study and research design

This research is qualitative, exploratory, non-experimental. It is an exploratory study, because it examines a topic or problem that has been little studied and aims to increase the understanding of the subject; non-experimental, because the study subjects (hearing impaired students) already belonged to an identified group; these students were asked about the perception of inclusion in their natural context and then analyzed, without manipulating the variables.

Thus same, this research has a qualitative approach, given that "*the qualitative route focuses on understanding the phenomena, exploring them from the perspective of the participants in their natural environment and in relation to the context*" (Sampieri, 2018), this is how this type of approach is appropriate to analyze the perception of educational inclusion that deaf students have and the educational experiences that have been had in basic education institutions that have housed these students in their classrooms.

Similarly, the ethnographic design was used for this research. In the words of Álvarez (2008), Maturana Moreno, G. A., & Garzón Daza, C. (2015) cited by Cotán Fernández (2020):

"(...) in the educational field, this approach makes it possible to analyze school dynamics, as well as to learn about the diverse perspectives and cultures of the school community, its main purpose being the improvement of school practices". Elements of action research design were also applied, since "*Its fundamental purpose is focused on providing information to guide decision-making for programs, processes and structural reforms*".

For his part, Elliot (1991) quoted by Sampieri Hernández, et. al (2010), conceptualizes action research as the study of a social situation with a view to improving the quality of action within it, which for the case of this research involves the study of the perception of educational inclusion of deaf students with the aim of improving the quality of education offered to them.

Initially, an instrument was designed to analyze the perception of inclusion to be applied to deaf students in the city of Sincelejo, a survey that was analyzed and validated by sign language interpreter teachers and speech therapists. Subsequently, the inclusion perception survey was applied to 17 high school and middle school students in the city of Sincelejo, and the experience and opinions of these students regarding how included they feel in their educational environment were analyzed, while very important conclusions were obtained to take into account when formulating the educational policy that guarantees the inclusion of the hearing-impaired population in Colombian basic education.

Similarly, exploratory focus group interviews were conducted with the staff of the schools attended by deaf students identified by the Sincelejo Municipal Secretary of Education.

Population and sample

According to Sampieri Hernández et al. (2010), the population is:

"(...) the set of all cases that match a set of specifications"; while the sample "is a subgroup of the population of interest on which data will be collected, and which has to be precisely defined or delimited beforehand, it must be representative of that population".

For this research, a non-probabilistic sample was used, since it does not depend on chance, but on the characteristics of the students. The study population is constituted by all children and adolescents enrolled in public educational institutions, duly diagnosed before the Municipal Secretary of Education as students with deafness or hypoacusis. These students, as mentioned above, must be registered as such in the SIMAT (integrated enrollment system). The unit of analysis corresponds to students in the transition, elementary and junior high school grades in the municipality of Sincelejo, Sucre, Colombia, who are reported with a hearing disability in the Integrated Enrollment System SIMAT. At present, 51 institutions are attached to the Secretary of Education of the municipality of Sincelejo, of which 37 correspond to the official sector and 14 are non-official.

- **Intentional choice:** The study population is constituted by all children and adolescents enrolled in public educational institutions, duly diagnosed before the Municipal Secretary of Education as students with deafness or hypoacusis. These students, as mentioned above, must be registered as such in the SIMAT.
- **Stratified:** By grade level and gender.
- **Exclusion criteria**

- Students whose hearing impairment is not properly reported in SIMAT.
- Students with hearing disabilities who have not acquired reading skills or do not have an interpreter and translator to help them fill out the instrument.
- Students who have not fully completed the instrument.
- Elementary school students who, due to their age, may have difficulty in understanding the questions of the instrument.

Results

Analysis of interviews with teaching and support personnel

The following are the main results and conclusions of the research based on the interviews conducted with the staff of the schools attended by deaf students identified by the Sincelejo Municipal Secretary of Education (teachers and support staff) in order to determine their perceptions and obtain more information on the state of inclusive education of deaf students in the municipality of Sincelejo (Table 1):

Table 1

Summary of the results of the interviews conducted

SUBJECT	INTERVIEWEE 1	INTERVIEWEE 2	INTERVIEWEE 3
Permanent sign interpreter	<p>Institution has a group of LSC interpreters in each of the grades of hearing impaired students.</p> <p>The interpreter's accompaniment is permanent, even during extracurricular activities.</p>	<p>The school has a permanent interpreter.</p> <p>Deaf students are taught to learn sign language.</p>	<p>They offer interpreter services on a permanent basis because it is their mother tongue.</p> <p>There is always a bilingual (interpreter) teacher in transition and elementary school and a linguistic model who is deaf.</p> <p>In high school there is always an interpreter, a support teacher who supports the subject and knows sign language.</p>
Additional support provided to facilitate adaptation to the school's teaching methodology	<p>Initially, the institution offered special education and expanded its coverage to students without difficulties.</p> <p>The institution had already implemented specific methodologies for each of the disabilities.</p> <p>LSC is recognized as the first language and written Spanish as the second language.</p> <p>There is no differentiation between hearing and deaf people, all are included in the implemented methodology.</p>	<p>The students are reinforced, supported and oriented permanently with the teachers who teach them sign language.</p> <p>Receive vocabularies aids in sign language word pictures.</p>	<p>Additional help to adapt is not necessary because the school's teaching methodology is not exclusive.</p> <p>The same methodology is used for deaf and hearing students.</p> <p>They are allowed to deliver the activities in more time, although they are very responsible in the delivery of their activities.</p> <p>Quantitative evaluation is accepted with less percentage.</p> <p>They have adapted perfectly and comply with their activities.</p>

	Curricular adaptations are adjusted to all students in the same classroom		
Academic outcomes of deaf students	<p>Deaf students are capable of acquiring knowledge as long as they have adequate interpretation.</p> <p>In eleventh grade, there are three deaf students who are in the top five places.</p> <p>They have a capacity for criticism, inference and reasoning.</p> <p>They are very fond of reading and questioning.</p> <p>Academic results have been good.</p>	<p>They have proven to be the best students.</p> <p>The deaf graduates of our institution are students and occupy the best positions at the University of Sucre and CECAR.</p>	Academic results are acceptable, in some subjects such as chemistry and mathematics they have a little more difficulty.
Teaching strategies	<p>the main strategy is service interpretation.</p> <p>The methodology applied must be inclusive for all types of students</p> <p>Common use of concept maps, mind maps, slides, constant use of textual definitions.</p>	<p>Each explanation should be written by the teachers on the blackboard</p> <p>Using the traveler's notebook</p> <p>Review assigned activities</p> <p>Allow presentations in sign language and, above all, that the interpreter be present</p>	Graphic, visual and concrete material. Methodology that favors meaningful learning.
Learning assessment	<p>Equal evaluations for deaf and hearing.</p> <p>Through written texts, the interpreter interprets for them because written Spanish is the second language.</p> <p>Prioritize the child's responses or interventions in his or her mother tongue.</p>	<p>They are made in writing with the interpreter present and translated into sign language or orally with the interpreter.</p>	<p>Through sign language interpreter or written assessment.</p> <p>It looks at the process of understanding as content is developed.</p> <p>The evaluation should be done on a daily basis.</p>
Training for teachers and managers in LSC	Space has been created for workshops with basic vocabulary in sign language.	All school personnel, including parents and guardians, receive LSC training.	<p>Yes, they are made to parents and teachers during the institutional weeks.</p> <p>There is still a lack of sign language comprehension.</p>
Participation of deaf students in academic, cultural and sporting events	They are included whenever they want to participate	They participate in soccer, pedagogical days in areas such as the environment or mathematics, dances, and before the beginning of cultural events they interpret the school, departmental and municipal anthems in LSC.	<p>They participate in all activities: cultural, sports, championships, flag-raising, painting events, science fair, olympics, etc.</p> <p>They belong to the association of the deaf.</p>

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			The person in charge is a deaf student.
Creation of audiovisual material	Making slides, videos, concept maps.	Use of the computer, videos of classes at LSC, use of the traveling notebook to be in constant communication with home and vice versa	Volume figures, maps, illustrations, etc.
Classroom characteristics	Good lighting Keep them away from distractions. Place them in the first positions so that there is no interference with the interpreter.	It is important for the deaf to concentrate in a peaceful, quiet classroom without distractions.	Good spaces, ample, built-in closets with material that can be handled. Very good light. Clear classroom covenants and that the teacher has group management. Conditions of respect during communication.
Challenges in working with deaf students	Their character is a little strong, but they adapt to academic groups very easily.	It is a positive challenge because we learn from them both the LSC and their thoughts, tastes, ways of learning and interacting.	The important thing is motivation.
Parental involvement in the teaching process	Parents or guardians are involved in the academic process as well as in the follow-up, trainings and meetings.	They are involved in the learning process through LSC trainings, calls or citations, constant reinforcement and support, follow-up through PIARs.	Community inclusion scheme: the patient's background, medical history and knowledge are evaluated and the degree to which he/she can be initially included is determined.
Guidelines and actions to be taken when coexistence problems arise	Problems of coexistence are solved with the presence of an interpreter.	There is no special route, it would be applied according to what happened if it is a case of type I, II or III as explained in the school coexistence law	There is always the interpreter when a problem arises. Their character is a little strong, but they adapt to the community. There are no major problems.
Awareness, education and training programs with the educational community	The entire community is invited to attend the sign language trainings that are organized on a regular basis	Training on educational inclusion, teacher training on how to deal with disability and awareness programs in case of discrimination.	Ongoing training in sign language and inclusion topics that are almost always held during institutional weeks.
Cultural and recreational events to highlight deaf culture	They are active participants in all cultural events offered to the student community.	Participate in many cultural, social, recreational and sports activities. Participate with fairness, respect and good coexistence.	They participate in all the activities that are organized: cultural, sports, championships, flag raising, painting events, science fair, etc.

Source: Interviews conducted with teaching and support personnel

Results on relevant survey findings

The main results of the surveys applied to deaf students registered in the SIMAT for the Municipality of Sincelejo are presented below:

Of the 17 students who completed the instrument, about 35.29% were female students and 64.71% were male students. Of the female respondents, 83.33% stated that they were profoundly deaf and 16.67% said they were deaf and hard of hearing. On the other hand, of the male respondents, 9.09% are profoundly deaf, 54.54% are considered hearing impaired and 36.36% state that they are deaf with cochlear implants. Because of their diagnoses, some of the students use aids to improve their hearing. Of the 70.59% who state that they use hearing aids, 41.18% use only hearing aids and 29.41% have both cochlear implants and hearing aids.

Regarding knowledge of the mother tongue and Spanish, 100% consider that they know and use Colombian Sign Language (CSL). In addition to their mother tongue, 76.47% know how to read Spanish and 23.53% consider that they read little Spanish. When writing in Spanish, 47.06% consider that they write in Spanish and 52.94% state that they write little in Spanish. There are cases in which deaf students acquire the ability to lip or lip-facial reading, for the case of the respondents, 29.41% consider that they have this ability quite developed, 41.18% have this ability little developed, while 29.41% definitely do not have it.

Regarding the forms of communication with their hearing-impaired peers, 76.47% communicate exclusively with LSC, only 11.76% put LSC and oral language into practice and the same proportion (11.76%) resort to a sign interpreter. In contrast, when communicating with their hearing peers, 11.76% communicate exclusively orally, 29.41% use LSC exclusively, 17.64% combine LSC and oral language, while 41.17% use a sign interpreter as an intermediary in communication.

Due to the obvious communication barriers between hearing impaired and hearing people, and given the impossibility of having an interpreter to support them in their communication processes at all times of their lives, most of these people have relied heavily on the use of technological tools that, although they do not completely close the communication gap, become a great support when it comes to understanding and making themselves understood in society. With the globalization of the smartphone, social media, chat and video calling applications over the past two decades, there are many hearing-impaired people who use Text Messaging (SMS), WhatsApp, video calling, Facebook, Messenger and the relay center to communicate. 100% of the students interviewed stated that they use at least video calls or a combination of video calls and other networks and tools to improve their communication experience with other people (deaf or hearing) and to be included in society.

Regarding the level of understanding of what their hearing peers transmit when communicating with hearing impaired students, 70.58% of the respondents stated that there are no problems in understanding them. To be more specific, to the statement "*I understand what my fellow listeners want to tell me when I communicate with him/her*", 58.82% agree and 11.76% strongly agree. However, there are 29.41% who totally disagree with this statement. In contrast, to the statement "*I perceive that my fellow*

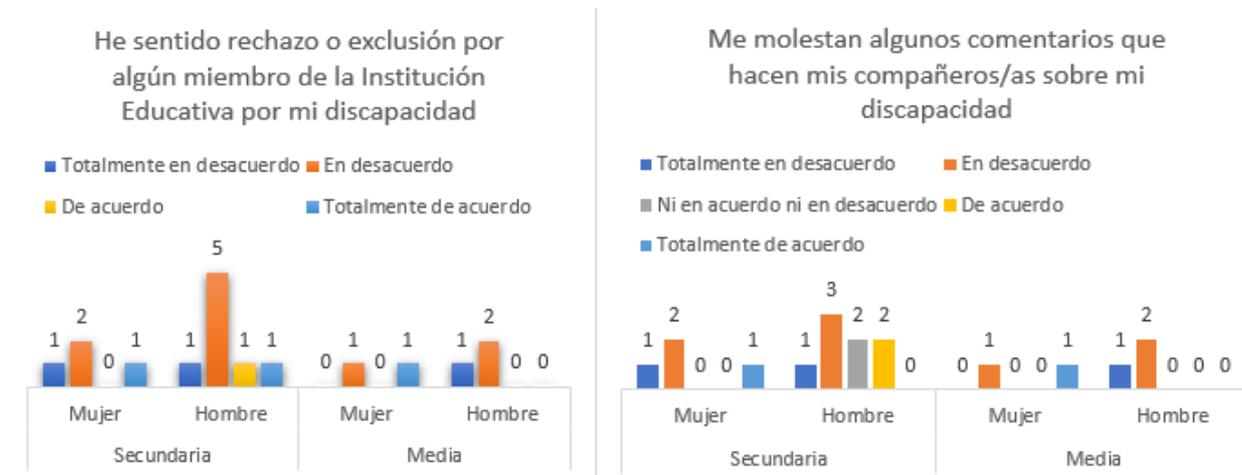
listeners understand when I communicate with them", 29.41% totally disagreed; 11.76% disagreed; 11.76% stated that they neither agreed nor disagreed; 29.41% agreed; and only 17.54% totally agreed. The above shows that at least 41.17% of hearing-impaired students consider that there are comprehension problems when hearing people communicate with them.

When a person with a disability lives in an environment in which he or she feels like a minority, there is a possibility that at some point in his or her life he or she has felt excluded or rejected. In the case of the hearing-impaired students who were interviewed, 17.64% disagreed with the statement "I have felt rejection or exclusion by some member of the educational institution because of my disability"; 5.88% agreed and 17.64% totally agreed. The above shows that at least 23.52% of students with hearing impairment have at some point felt rejected or excluded in their school environment (See Figure 1).

On the other hand, there is also the possibility that at some point, a member of the educational community may have made a comment that was not well received by the deaf student, therefore, to the statement "Some comments made by my classmates about my disability bother me", 17.64% disagreed; 47.05% disagreed; 11.76% disagreed or disagreed; 11.76% agreed; and 11.76% felt totally identified. (See Figure 1)

Figure 1

Perception of rejection or exclusion in their school environment. Source: Inclusion perception survey applied to deaf students

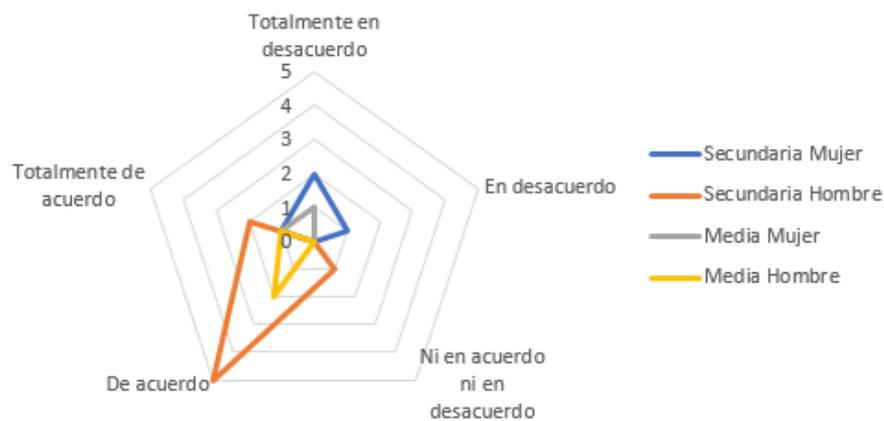


Regarding the perception of support and acceptance of their disabilities by their teachers, to some extent 70.58% of the surveyed students believe that their teachers understand their hearing impairments. Being specific, to the statement "I feel that my teachers do not fully understand my hearing impairments", 17.64% strongly disagreed; 52.94% disagreed; 17.64% neither agreed nor disagreed; only 11.76% strongly agreed. In the same sense, 41.17% of the respondents feel completely satisfied with the treatment, support and attention I receive from teachers; 41.17% feel satisfied and 17.64% feel completely dissatisfied with the treatment of their teachers.

Continuing with the line of satisfaction and perception of inclusion taking into account the teaching practice and their daily experiences in the classroom, 70.58% of the students consider that their teachers are clear in the explanations of school subjects (29.41% totally agree and 41.17% agree); 23.52% disagree with the way their teachers transmit the explanations of the topics (17.64% totally disagree and 5.88% disagree) and; 5.88% have a neutral position (neither agree nor disagree). (See Figure 2)

Figure 2

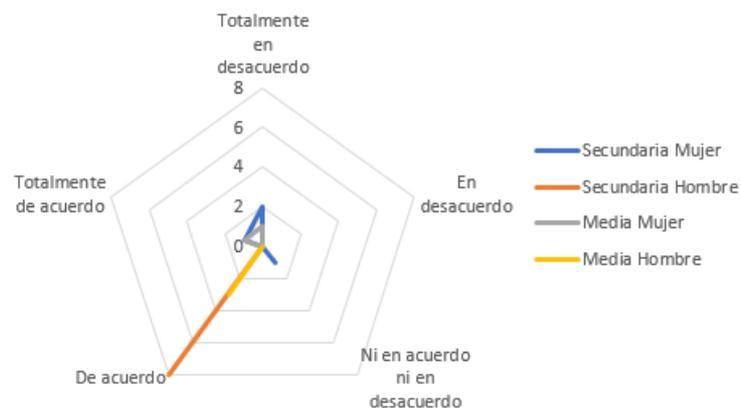
Teachers are clear in their explanations of school subjects. Source: Inclusion perception survey applied to deaf students



When asked if the classroom offers adequate means and conditions for their hearing needs, 76.47% of the students consider that the means and conditions are adequate (11.76% totally agree and 64.70% agree); 17.64% totally disagree; and 5.88% have a neutral position (neither agree nor disagree). (See Figure 3)

Figure 3

Means and conditions appropriate to your hearing needs. Source: Inclusion perception survey applied to deaf students



When asked whether teachers offer subject contents adapted to their hearing impairment, 64.70% consider that the contents offered are in accordance with their condition (11.76% totally agree and 52.94% agree); 29.41% completely disagree with the contents offered taking into account their condition; and 5.88% neither agree nor disagree.

On the other hand, it is well known that deaf people are able to reprogram the areas of their brain assigned to hearing to improve their vision, in that sense, it is advisable to take advantage of the sense of sight of students to improve the understanding and apprehension of the contents that are developed in the classroom. When students were asked about the visual strategies that their teachers apply in the classroom, the results were the following: according to the students surveyed, at the time of presenting audiovisual material in the classroom, there are weaknesses since subtitles are not always provided for better understanding. 52.94% said that subtitles are not always offered to audiovisual material (23.52% totally disagreed and 29.41% disagreed); 29.41% completely agreed that subtitles are always offered; 11.76% agreed; and 5.88% neither agreed nor disagreed.

Similarly, in response to the statement "*My teachers use graphs, drawings and graphic organizers for the information they want to present in the classroom*", opinions are divided: 23.52% totally disagree; 11.76% agree; 29.41% totally agree; and finally, 35.29% have a neutral position (neither agree nor disagree). Regarding the promotion of teacher-student eye contact in the classroom, 23.59% of the respondents strongly denied that their teachers promote eye contact or locate their body in front of them when they talk to them; while 76.47% affirm that their teachers do promote eye contact (41.17% agree and 35.29% strongly agree)

Although exploiting the visual part of the students is a good strategy for them to understand the content, having a classroom with too much ambience can cause deaf students to become visually saturated and lose focus. In response to the statement "*in my classroom, I avoid excessive classroom decoration in order not to visually saturate my space and favor my concentration*", 29.41% of the respondents stated that their classrooms are visually saturated (totally disagree); 23.52% agreed; 11.76% opted for totally agreeing; and 35.29% had a neutral position (neither agreeing nor disagreeing)

In addition to promoting eye contact, avoiding excessive classroom ambience and using graphic and audiovisual material to support classroom activities with hearing impaired students, it is very important to implement didactic strategies in the teaching process and in the evaluation process, in this aspect, the results of the survey are quite positive. In response to the statement "*The teachers at my educational institution make use of didactic strategies in the **teaching-learning process** in accordance with my abilities, learning styles and rhythms*", 58.82% agreed and 17.64% expressed total agreement; only 23.52% expressed total disagreement

Likewise, for the statement "*Teachers at my educational institution make use of didactic strategies in the **evaluation process** according to my abilities, learning styles and rhythms*", 64.70% agreed and 11.76% totally agreed; 17.64% of the respondents

totally disagreed and only one student (5.88%) showed a neutral position (neither agreeing nor disagreeing)

In Sincelejo, there are no educational institutions exclusively for people with disabilities; the municipality guarantees educational services for these students in regular educational institutions. Therefore, institutions that host deaf students should include Colombian Sign Language (CSL) interpreters in this service, so that communication barriers between deaf and hearing students can be reduced and students can better understand their hearing teachers and administrators. In relation to the above, the students interviewed were asked about their personal need to use an interpreter or linguistic model. When asked the question, 82.35% of the students confirm that they do require an interpreter to understand their teachers (41.17% agree and 41.17% totally agree), only 11.76% state that they do not require an interpreter and 5.88% neither agree nor disagree. Now, having the need for an interpreter does not mean that students have an interpreter in their institutions whenever they require it, that is, permanently in their institutions, in that sense, to the statement "*My school offers me the service of a sign interpreter permanently*", 17.64% strongly disagreed; another 17.64% disagreed; 47.05% agreed; and 11.76% strongly agreed; finally, the percentage of students with a neutral position, that is, neither agreeing nor disagreeing, is 5.88%. We also inquired whether the educational institution offers sign language interpreter services for academic, sports and cultural events. In response to this statement, 17.64% strongly agreed; 58.82% agreed; 17.64% strongly disagreed; and 5.88% neither agreed nor disagreed.

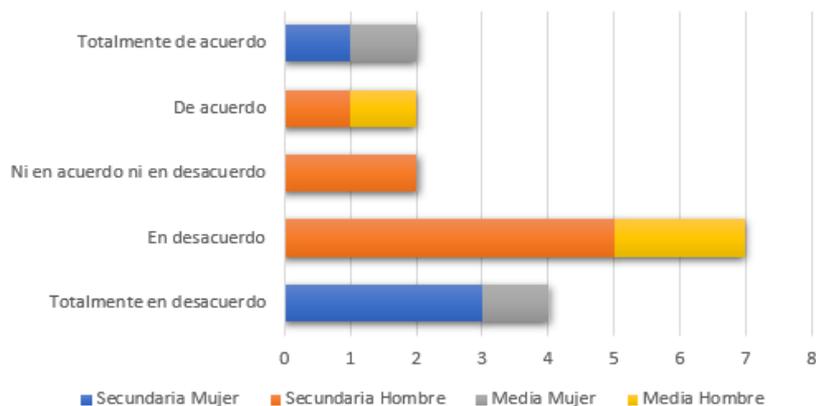
So far, it has become evident that not all students have the possibility of having a sign language interpreter on a permanent basis, therefore, it is very helpful for teachers and administrators to know and use the LSC, however, the results were as follows:

64.70% of the respondents deny that their teachers know and use the LSC in the classroom (23.52% totally disagree and 41.17% disagree); on the contrary, in equal proportions, 11.76% adopt a totally agree, agree or neutral position (neither agree nor disagree). (See Figure 4

Teachers know and use sign language in the classroom. Source: Inclusion perception survey applied to deaf students

Figure 4

Teachers know and use sign language in the classroom. Source: Inclusion perception survey applied to deaf students



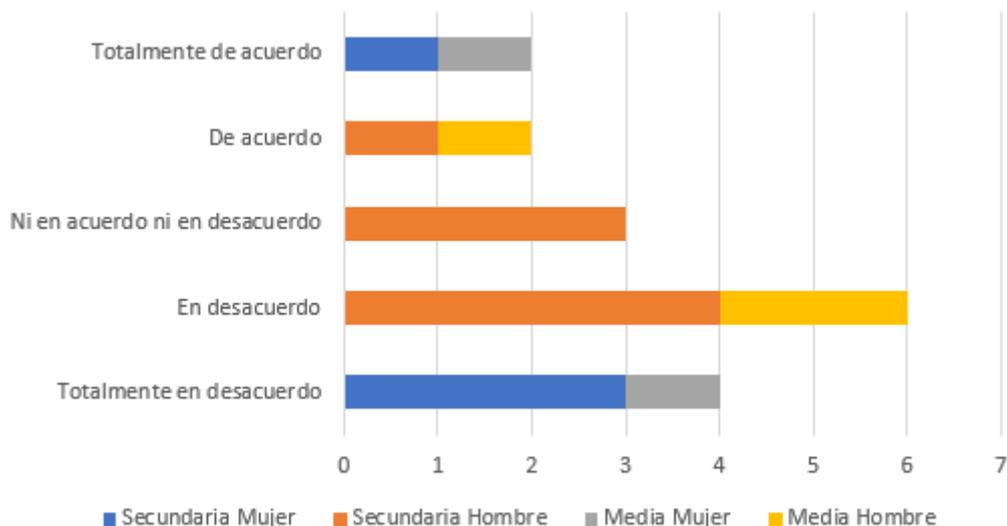
In relation to the managers and the knowledge and use of CSL in the institution, they were presented with the statement "*The managers of my school know and use sign language*", here the panorama is a little more favorable in the sense that 35.29% were in total agreement and 11.76% agreed; however, 47.05% disagreed and the remaining 5.88% totally disagreed.

With respect to whether their peers (fellow students) know and use sign language, the results were as follows: 11.76% of the respondents considered that they totally agreed; 11.76% agreed; 35.29% disagreed; 23.52% of the respondents totally disagreed and finally, 17.64% adopted a neutral position (neither agree nor disagree) (see Figure 5

Peers know and use sign language in the classroom. Source: Inclusion perception survey applied to deaf students

Figure 5

Peers know and use sign language in the classroom. Source: Inclusion perception survey applied to deaf students

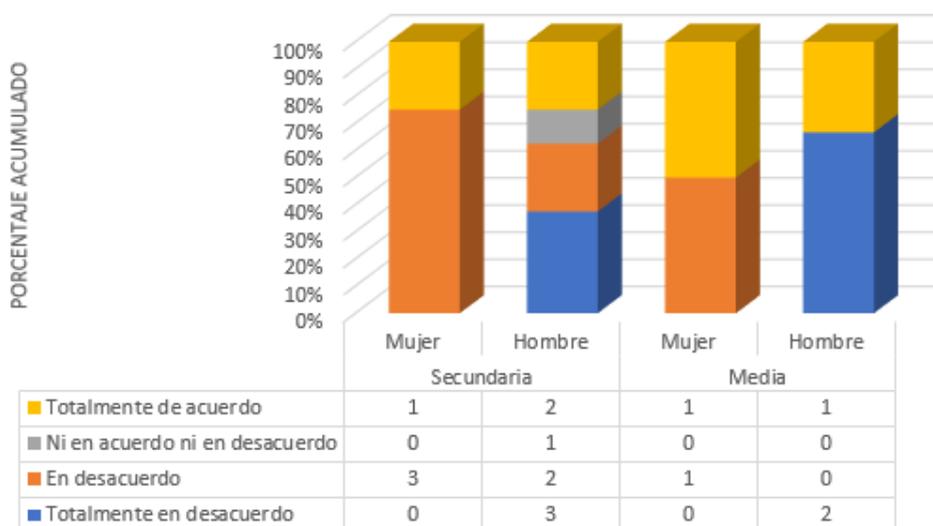


Although teachers, through their pedagogical practices in the classroom, can promote a better understanding and apprehension of content, it is well known that education professionals cannot act as a loose cannon and must follow institutional guidelines on inclusion. Taking this reality into account, when faced with the statement "The institution adapts the teaching methodology to my hearing impairment", the results were as follows: 17.64% disagreed completely; 52.94% agreed; 23.52% adopted a position of complete agreement and 5.88% neither agreed nor disagreed.

As a complement to the previous question, 29.41% of the students surveyed totally agree that the teaching methodology of the Educational Institution generates barriers in the teaching-learning process; 35.29% consider that the methodology does not generate barriers (denies the statement); 29.41% categorically deny that the teaching methodology of the institution generates barriers; finally, 5.88% adopted a neutral position (neither in agreement nor in disagreement) (see Figure 6)

Figure 6

The teaching methodology of the Educational Institution generates barriers in the teaching-learning process. Source: Inclusion perception survey applied to deaf students



Discussion and conclusions

Once the instrument for characterizing the hearing-impaired population was applied, it was determined that the hearing impaired students who identified themselves as female represent only 35.3% of the hearing impaired population. This information could also be a starting point for analyzing the problems of the deaf population from a gender perspective, since deaf women can be useful indicators for measuring the gender equity indexes of this population. In relation to the above, INSOR (2011) warned that, according to society, the main role of deaf women is as caregivers and dedicated to family life, which could be a cause of the low percentage of deaf female students compared to their male peers.

The characterization of the deaf students showed that 76.5% know how to read Spanish, but only 47.1% know how to write it. In this sense, it is possible to identify an

aspect of language teaching that should be analyzed and compared with the models applied in other countries; for example, the Swedish school model for deaf people can be taken as a reference, which states that after ten years of schooling, students should be bilingual. The reason for this model of bilingualism is that the second language is necessary for the deaf because sign language does not have a writing system and, in order to function properly in society, the deaf are obliged to use written language as the only means of access to information and exchange with hearing people in the society in which they live. That is why, although it is considered that the mother tongue of people born with hearing impairment is sign language, educational institutions and families should not neglect the importance of teaching the Spanish language.

On the other hand, the technological progress to which we have access nowadays, means an accumulation of tools that are at the hand of deaf people to mitigate a little the communicative barriers that may arise. Thus, the characterization of deaf students made it possible to identify the use they make of technological tools when communicating with their teachers and with other deaf and hearing students. It was then determined that they all resort to the use of technological tools such as video calls, WhatsApp, e-mail, Messenger, Facebook and relay center, which leads to recognize the role that these technological tools have played during the covid-19 pandemic to be able to ensure the continuity of the teaching process in deaf schoolchildren.

The characterization of the deaf students revealed that 41.2% of the respondents identified themselves as deaf with hearing loss and 23.5% as deaf with cochlear implants (for a total of 64.7%). In that order of ideas, 70.6% stated that they use some type of aid (hearing aid or implant) to improve their hearing, a percentage that places them well above the statistics published by the WHO (2021) where it states that only 17% of all people who could benefit from using a hearing aid wear one.

When analyzing the experiences of educational inclusion in the different educational institutions of Sincelejo from the perspective of the deaf and hard of hearing students surveyed, it was found that an educational inclusion policy specifically for the deaf population is required, since, although there is an inclusion law in Colombia, this law covers in general terms the population with disabilities, but does not address the specific needs of students with this condition. Therefore, when analyzing the perspective of inclusion of hearing-impaired students, we found aspects that could be improved to guarantee the right to quality education and improve the school environment for this population.

In relation to the above, an educational policy proposal to ensure the inclusion of deaf students should contain actions and recommendations for teachers to develop their work based on the following pedagogical practices: make use of didactic strategies according to the abilities, styles and learning rhythms of deaf students both in the teaching process and in the evaluation process; learn and use sign language in the classroom; offer the contents of the subjects adapted to the conditions of deaf students; always offer audiovisual material with subtitles to improve the understanding of the contents; always use drawings and graphic organizers to offer new knowledge; promote eye contact and always communicate face to face with deaf students in order to have the opportunity for

a possible lip-facial reading; fully comply with the individual plan of reasonable accommodations that must be designed and implemented; among others. Likewise, although educational institutions offer the service of a linguistic model or sign language interpreter, not all the pedagogical responsibility can be left to these people who are considered a support for the teaching process that is in charge of the regular teacher.

On the other hand, the responsibility for inclusive education cannot rest solely with classroom teachers and the linguistic models or interpreters that support them. It is required that, from the management, academic, welfare and coexistence management, actions are implemented to help improve the academic conditions of deaf people. In that order of ideas, it was identified that the inclusive education policy to be proposed should include institutional aspects such as: awareness campaigns, dissemination and respect for deaf culture; offer the service of a linguistic model or sign language interpreter not only within the classroom but also in the various academic, cultural and sporting events; specify in the coexistence agreement the routes and actions to be taken in situations involving students with hearing impairment; organize awareness programs, education and training on issues related to the integral development of students with hearing impairment; organize cultural and recreational meetings with families and the community in general to recognize the values and culture of the deaf community; follow up on graduates with hearing impairment to identify the impact of their education to develop in society; allocate resources exclusively for the acquisition of bibliographic copies, technological tools and other resources to support the educational process of deaf students; among others.

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