

### **REFLECTION ARTICLE**

## Opportunities and challenges for speech-language pathologists to move towards inclusive education in Colombia

Oportunidades y desafíos de la fonoaudiología para avanzar hacia una educación inclusiva en Colombia

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#### **Abstract**

Several studies have shown that, in the school setting, speech-language therapy has a significant impact on the detection, promotion and approach to the processes inherent to human communication as a basis for learning, participation, and inclusion. Despite this, recent regulations on education in Colombia do not clearly define the work of these health professionals in this scenario. Considering the above, the objective of this paper was to present a critical analysis of the role of speech-language pathologists in the context of inclusive education in Colombia.

The first part of this article analyzes the problems regarding the denomination of speech-language pathology and the relevance of its functions. Then, the role of these professionals in the educational setting is addressed. Finally, some actions are proposed to vindicate the role of speech-language pathologists in equity and inclusion in education in terms of the elimination of environmental barriers and the strengthening of capacities according to the individual characteristics of students.

### Resumen

Varios estudios han mostrado que, en el escenario escolar, la fonoaudiología tiene un impacto significativo en la detección, la promoción y el abordaje de los procesos inherentes a la comunicación humana como base para el aprendizaje, la participación y la inclusión. A pesar de esto, las disposiciones normativas recientes en Colombia no definen claramente el quehacer de este profesional en este escenario. Teniendo en cuenta lo anterior, el objetivo de este artículo fue presentar un análisis crítico sobre el papel del fonoaudiólogo en el contexto de la educación inclusiva en Colombia.

En la primera parte del presente artículo se analizan los problemas en la denominación de la fonoaudiología y la pertinencia de sus funciones. Luego, se aborda el rol de este profesional en el contexto educativo. En la última parte se proponen algunas acciones para reivindicar el rol de los fonoaudiólogos en la inclusión y la equidad en la educación en términos de la eliminación de barreras del entorno y el fortalecimiento de capacidades de acuerdo con las particularidades de los estudiantes.

### Introduction

The fourth United Nations Sustainable Development Goal (Quality Education) emphasizes the promotion of quality learning opportunities for all, including access to education and sufficient support to ensure quality, inclusive, and equitable education. However, achieving this requires structural reforms of the education system and entails different challenges in each country. <sup>2-4</sup>

In Colombia, Article 67 of the Political Constitution of 1991<sup>5</sup> recognizes education as a right and as a public service that has a social function. In this sense, in order to guarantee education for all Colombians, a broad legislative framework has been developed, which includes Decree 1421 of 2017, "whereby educational services for the population with disabilities are regulated within the framework of inclusive education", and Law 2216 of 2022, "whereby inclusive education and the comprehensive development of girls, boys, adolescents and young people with specific learning disorders are promoted".

Nevertheless, in Colombia, the second most unequal country in Latin America, there are several challenges in terms of education, such as overcoming the low level of quality of education and closing the existing gaps in terms of participation.

Similarly, it is necessary to consider the devastating effects of the COVID-19 pandemic, which revealed the deep economic and social gaps existing in the region and increased the disadvantages related to the adequacy of curricula and the generation of aids and accommodations for students with special needs. <sup>10</sup> It should also be noted that the pandemic hindered or, in some cases, interrupted access to rehabilitation in different areas, including speech-language therapy, which is a facilitator of the educational processes of students with disabilities or learning disorders. The impact of this situation was evident in the return to face-to-face classes. <sup>11,12</sup>

Both the relationship between communication, learning and human development, as well as the effectiveness of the collaborative work of the speech-language pathologist with the educational community in achieving school success have been widely reported. Despite the above and the advances in the educational system, recent regulatory provisions do not explicitly establish the place of speech-language pathologists in this scenario. Given the above, the objective of this article was to present a critical analysis of the role of the speech-language pathologist in the context of inclusive education in Colombia.

## The unclear current state of speech-language pathology in education

In Colombia, the speech language pathologist is an autonomous professional with a broad scientific knowledge of human communication and its possible variations, limitations and deficiencies, as well as the processes involved in it. Thus, the actions carried out by this professional are framed within a biopsychosocial perspective of the human being and, through these, they ensure the communicative well-being of children, young people and adults, promoting their comprehensive development and social inclusion. <sup>15,16</sup>

In recent years, the field of speech-language therapy has adopted a holistic approach to the treatment of communication disorders in accordance with the recognition of the complexity of the biological, psychological and social elements that make human communication possible. With this in mind, communicative health and its variations; language, speech, hearing and swallowing impairments; communicative limitations; and disability in general are considered to be determined by the relationship between

individual factors (body structures and functions) and contextual factors (environmental and personal).<sup>14,17</sup>

Speech-language therapy in Colombia emerged in 1966 with the creation of academic programs in this specialty at the Universidad Nacional de Colombia and the Escuela Colombiana de Rehabilitación, <sup>18</sup> but it was not regulated until 1997 with the enactment of Law 376. <sup>19</sup> Speech-language therapy in schools in the country was also implemented in the 1960s, <sup>18</sup> and in 2003, by means of Resolution 2565, the Ministry of National Education included speech language pathologists in the group of professionals who can perform functions that support the academic and social integration of students with special educational needs. <sup>20</sup>

According to Flórez-Romero, <sup>21</sup> a school speech language pathologist should have both theoretical knowledge and procedural skills related to human communication, as they are fundamental to promote the development, learning, and participation of children and young people. Likewise, the author states that the work of speech language pathologists in the school setting involves working collaboratively with other professionals to promote communicative well-being, prevent language deficiencies, evaluate communication, carry out interventions, and offer counseling to parents and advice to school administrators and teachers. <sup>21</sup>

It is considered that the training and competencies of speech language pathologists are sufficient to meet the expectations and demands of inclusive education, so it is thought that these professionals can hold the position of pedagogical support teachers. <sup>6,22</sup> However, this role imposes multiple challenges and does not include several of the speech language pathologists' own functions, especially those directly related to their object of study, since the responsibilities of the pedagogical support teacher include participation in the formulation and monitoring of individual plans for reasonable accommodations and institutional improvement plans, raising awareness of the right to inclusive education, and accompanying and training teachers and families on issues related to inclusive education. <sup>6</sup>

Due to the above, it is necessary to differentiate between the speech language pathologist who fulfills the role of pedagogical support teacher and the one who practices the profession in the educational setting. Thus, the following questions arise in this regard: To what extent is the role of the speech language pathologist invisible in inclusive education? Are speech language pathologists working in the education sector as support teachers providing care consistent with inclusive education? How to promote communicative well-being when educational care is exclusively aimed at eliminating barriers in the environment? Working in a context of inclusion and equity in education makes activities such as the promotion of communicative health and the detection, assessment and intervention of communication disorders inappropriate?

## An identity problem

With these questions in mind, in a qualitative study in which 17 Colombian speech language pathologists working in inclusive education were interviewed, Quintero-Uribe & Montoya Otalvaro<sup>23</sup> found that the interviewees stated that their role is little recognized and that there is no consensus on the name of their position, giving rise to labels such as "speech language pathologist in inclusion", "speech language pathologist in education", "consultant in inclusive education or in educational inclusion", among others.

In this sense, following the findings of Quintero-Uribe & Montoya Otalvaro, <sup>23</sup> and because no further reports were found on the subject and the data are not representative,

it is a priority to establish a consensus on the denomination of speech language pathologists in the educational setting in order to favor their political and social recognition. In any case, it should be kept in mind that the different denominations could be partly due to the recent reorganization of educational care.

### Remnants of the biomedical approach in school speech-language therapy

Daza-Timana *et al.*<sup>24</sup> published in 2017 a study in which they reviewed the intervention model in the practices of speech language pathology students at the Universidad del Cauca and found that diagnoses were mainly related to biological models and that most interventions were directed towards bodily functions. Likewise, Quintero-Uribe & Osorio-Montoya<sup>25</sup> published in 2018 a study in which they interviewed 17 speech language pathologists working in inclusive education and found that 67% of the respondents had a conception of disability based on a deficit view, focused on deficiencies and linked to the biomedical model, and that 28.6% had a conception of education that matches the paradigm of integration. Other studies have reported that the highest percentages of research in speech language pathology with children are focused on the pathologization of childhood, as opposed to the premise of recognizing performance based on diversity.<sup>26,27</sup>

The ambiguity in the conceptions of inclusive education and disability and in the research approach to the disorder may be the result of a traditional training in speech-language therapy based on rehabilitation with a standardizing vocation that seeks to calculate the deficiencies in language, hearing, speech and oral pharyngeal function; to discipline the tongue; and to establish truths about pathologized subjects. Therefore, it is possible that some practices inherited from special education, segregation, integration and even from the traditional health paradigm still persist in some educational establishments.

Speech language pathology is constantly challenged to discuss its role in the educational scenario and to adopt an epistemic and methodological perspective that contemplates the identification and elimination of environmental barriers that limit the participation of students in academic activities. This must be done while working on the potentiation of communication skills, as well as on the creation of mechanisms, ways and means to understand and express knowledge in a context where all forms of being and relating are recognized and taken into account. An important step forward in this regard is proposed by the Colombian Ministry of Health and Social Protection in the document *Perfil y Competencias Profesionales en salud. Perspectiva de las profesiones, un aporte al cuidado de la salud, las personas, familias y comunidades* (Profile and Professional Competencies in health: Perspective of the professions, a contribution to healthcare, individuals, families, and communities). It defines the characteristics that various health professionals in the country, including speech language pathologists, must have.<sup>15</sup>

# Early detection of language disorders and timely intervention: a contribution to educational quality

According to Christopulos & Kean, <sup>29</sup> between 7% and 12% of elementary school students have language disorders, but only 18% of these cases are identified and receive treatment. Language difficulties have been related to academic and socioemotional problems, higher school dropout rates, increased risk of bullying, and aggressive and/or antisocial behaviors. <sup>30,31</sup> This emphasizes the need to detect and intervene these difficulties in a

timely manner, as well as to raise awareness and train the educational community on the subject in order to move towards an empathetic and protective education.

Speech-language therapy actions, both group and individual, have proven to be effective in the early detection and treatment of language disorders and in the promotion of communication skills in the school context. Likewise, in the educational setting, there is evidence of improvement in oral and written language through speech-language therapy interventions in aspects such as phonological awareness, expressive language, storytelling, pragmatic skills, decoding of written messages, comprehension and production of texts, among others. 32-36

In this context, the American Speech-Language-Hearing Association<sup>37</sup> states that collaborative intervention between the speech language pathologist and the teacher in the classroom promotes the development of communication skills critical for emotional and social functioning and school success. In this regard, several studies show that the planning and implementation of speech-language therapy intervention programs in groups of students have a favorable effect on oral, reading, and writing processes. <sup>36-40</sup>

In addition to their contributions in the field of language, speech language pathologists can also contribute to screening for early detection of hearing impairment and timely referrals due to the relationship between hearing impairment and language, speech and learning difficulties. This is of paramount importance as the population with hearing loss is on the rise and about 24 million children are affected by hearing impairment (60% from preventable causes).<sup>41</sup>

## The need for speech-language therapy in education

Speech-language therapy, as a science-based profession, has demonstrated from a collaborative action framework its effectiveness in enhancing language and communication as a basis for socialization, school success, inclusion, and equity in education. <sup>21,37,42</sup> Its pedagogical input is derived from evidence-based practice and is supported by knowledge in neuroanatomy, human development, cognitive theory, linguistics, multiculturalism, among others. <sup>14,15</sup>

Thus, collaborative work between the speech language pathologist and the teacher during the first years of schooling is fundamental, since students with oral language difficulties who are not identified and treated early are at risk of being at a disadvantage in terms of their reading and writing skills, academic performance, and even mental health.<sup>29-31,37,43</sup>

In this sense, the presence of these health professionals in the school is not limited to the roles they can play as pedagogical support professionals. In fact, their absence in the educational setting reduces the chances of early detection of language, speech, swallowing and hearing impairments and communication limitations, preventing timely interventions at sensitive periods of development. 44-46

Likewise, the absence of speech language pathologists in educational establishments is a waste of the potential of human communication as a basis for building more equitable and inclusive communities. Actually, some experts suggest that best practices for treating students with language, speech, and hearing impairments are based on a collaborative approach between these professionals and other members of the educational community within the school. <sup>21,42</sup> In addition, it has been widely reported that the lack of qualified professionals to identify and provide quality communication services in schools is one of the major barriers for students to advance in their educational process. <sup>47-50</sup>

Similarly, speech-language therapy has a positive impact on inclusive education as it contributes to the adaptation or flexibilization of the curriculum, the formulation and implementation of augmentative and alternative communication systems, counseling for parents, advice for teachers and the approach to the communication skills of both students with disabilities and other students. This includes students who are not contemplated in Decree 1421 of 2017<sup>6</sup> or in Law 2216 of 2022,<sup>7</sup> such as people with exceptional abilities and talents. <sup>16,51</sup>

In the educational models of other countries, such as the United States, Australia and Chile, there is legislation that, within a framework of inclusion, contemplates the incorporation of speech-language therapy in the educational environment to promote the development of phonological, lexical, syntactic and comprehension skills during the literacy process, as well as to provide assistance in the creation of individualized education programs and even to train families in communication issues. 44,52-54

On the other hand, it should be mentioned that the communication expertise of speech language pathologists is key to improving academic performance and favoring the harmonious transition of students at different educational levels. Therefore, it is important to continue promoting their participation in the school environment and to conduct research on their impact in this context. In this regard, it is worth noting that in the United States, given the increase in recent years of cases of children with communication and language difficulties, the demand for speech language pathologists in schools has increased due to their important contribution to the comprehensive development of students. In this regard, it is worth noting that in the United States, given the increase in recent years of cases of children with communication and language difficulties, the demand for speech language pathologists in schools has increased due to their important contribution to the comprehensive development of students.

Furthermore, in a scenario of high communicative demand, such as the school, it is possible to work on the promotion of the communicative well-being of teachers, since these professionals have multiple risk factors that can affect their communication. <sup>56,57</sup> In fact, speech-language therapy intervention is widely recommended to reduce associated risk factors such as excessive and inappropriate use of the voice and stress. <sup>58</sup>

The contribution of speech-language therapy in schools is also reflected in the adaptation of environments and the generation of cultures that mitigate noise pollution. This helps to reduce the risk of noise-induced hearing loss, anxiety and depression, <sup>59,60</sup> as well as to reduce the negative effects that permanent exposure to noise has on tasks such as reading comprehension. <sup>61</sup>

## Speech-language therapy in today's inclusive education: a vindicating proposal

In order to achieve quality, equity and inclusion in education, the contribution and knowledge of speech language pathologists are fundamental.

One of the challenges for these professionals is to establish agreements regarding their denomination in the educational setting. Consequently, in this article we propose to maintain the denomination used by Flórez-Romero<sup>21</sup> "school speech language pathologist", since it makes visible the denomination given and the setting in which they work.

The school speech language pathologist must harmonize their scientific knowledge about human communication and its variations, limitations, processes and deficiencies with the current models of attention to diversity. In this sense, their role in the different educational levels (preschool, preschool, elementary, middle and high school) should be based on the understanding that the communicative interactions that occur in the educational scenario are influenced by the biological, psychological, social and cultural dimensions and, therefore, no actions should be carried out during the school day that imply the segregation of students based on their communicative skills. On the contrary, a culture that recognizes

and appreciates diversity as an inherent characteristic of others based on their capabilities, historical context, experiences, and cultural assets should be fostered.

Accordingly, the actions of the school speech language pathologist should be aimed at detecting students and teachers at risk of developing language, speech or hearing impairments; optimizing students' communication skills; carrying out assessment, referral and intervention processes based on evidence-based educational practice; and working collaboratively with other members of the educational community through a receptive and proactive dialogue that allows responding to the characteristics of each person by strengthening inclusive institutional policies, practices, and cultures. Thus, their role can be key in the articulation between education and health institutions.

On the other hand, the expertise of these professionals could be of great help in the consolidation of the academic curriculum, as well as in the formulation and implementation of reasonable accommodations to identify and eliminate communication barriers, and in supporting the processes of people who require technological tools to communicate, such as hearing aids and augmentative and alternative communication devices, such as boards, speech-generating devices, etc.

In addition, for students with communication difficulties, individual intervention by school speech language pathologists may be an option as long as it does not restrict their attendance to academic activities and does not take place during the school day. This is a viable alternative to the single school day proposed in Colombia by the National Government, which seeks that educational establishments offer time for the development of biological, cognitive, socio-affective and spiritual aspects of students through recreational and pedagogical experiences. 62

The school speech language pathologist can also carry out actions to prevent hearing loss and vocal abuse, such as the adaptation of environments that mitigate noise exposure, and has the ability to formulate research projects related to their field of study, the results of which could be used by schools to update their institutional policy documents. 18,21,63

It is clear that school speech-language therapy faces important challenges to adapt to current educational requirements and that it must assume a proactive position that allows it to continue to gain recognition and involvement in decision making at the academic level in order to have a clearer understanding of its role in inclusive education. In this sense, the profession of speech language pathologists has the ethical and social responsibility to contribute to the construction and implementation of plans, programs and policies that, in harmony with the current goals of education for all, will promote the recognition of the profession within educational institutions for the benefit of the entire community.

### **Conclusions**

Considering the knowledge background, speech language pathology is the ideal profession for the early detection of language, hearing, speech and swallowing impairments and their treatment. Speech language pathologists can act as intersectoral agents linking education and health and contribute significantly to meeting the communication needs of all students, thus impacting the social, emotional and cognitive processes that affect participation, learning, retention, and success in school.

The recent regulatory provisions on inclusive education in Colombia make speech-language therapy invisible. Thus, the presence of speech language pathologists in some schools is mainly temporary and in a different role, as pedagogical support teachers. This concept contributes to the ambiguity in their denomination and practices and,

in addition, does not contemplate all the functions that speech language pathologists can perform in the educational context. In this sense, it is essential to reach a national consensus on the appropriate way of designating the professional in speech-language therapy in the educational scenario in order to increase their recognition.

Similarly, efforts should continue to focus on the continuing education of speech language pathologists from a diversity perspective and on the research and dissemination of their inclusive practices in order to promote a political and cultural change in which these professionals are widely recognized and their professional practice is valued in the educational scenario.

Inclusive education does not depend only on the design of an educational system that welcomes diversity under premises such as the identification of barriers to access to education. To achieve this, it is necessary to generate structural and articulated conditions that make the participation and learning of students with social justice viable. These conditions include the presence of professionals in speech language pathology in the interdisciplinary teams of educational establishments. To this end, the profession should participate in the review and design of educational policies and in the oversight of the allocation of financial resources for their implementation, as they are fundamental elements to advance towards education for all, as recommended in the report of the Organization for Economic Cooperation and Development.

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### References

- Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura (Unesco). Educación 2030: Declaración de Incheon y Marco de Acción para la realización del Objetivo de Desarrollo Sostenible 4: Garantizar una educación inclusiva y equitativa de calidad y promover oportunidades de aprendizaje permanente para todos. Unesco; 2016 [cited 2024 Feb 5]. Available from: https://bit.ly/4boOuHn.
- 2. Gubbels J, Coppens KM, de Wolf I. Inclusive education in the Netherlands: how funding arrangements and demographic trends relate to dropout and participation rates. International Journal of Inclusive Education. 2018;22(11):1137-53. https://doi.org/hgcq.
- Savolainen H, Engelbrecht P, Nel M, Malinen OP. Understanding teachers' attitudes and self-efficacy in inclusive education: Implications for pre-service and in-service teacher education. European Journal of Special Needs Education. 2012;27(1):51-68. https://doi.org/fwj8kg.
- Guerrero Y. Strengthening inclusive education in a colombian institution of higher education. Journal of Inclusive Education. 2019;3(1):111-25.
- Colombia. Asamblea Nacional Constituyente. Constitución Política de Colombia de 1991. Bogotá, D.C.: Gaceta Constitucional 116; july 20 1991.
- 6. Colombia. Presidencia de la República. Decreto 1421 de 2017 (agosto 29): Por el cual se reglamenta en el marco de la educación inclusiva la atención educativa a la población con discapacidad. Bogotá D.C.: Diario Oficial 50340; august 30 2017.

- 7. Colombia. Congreso de la República. Ley 2216 de 2022 (junio 23): Por medio de la cual se promueve la educación inclusiva y el desarrollo integral de las niñas, niños, adolescentes y jóvenes con trastornos específicos de aprendizaje. Bogotá D.C.: Diario Oficial 52074; june 23 2022.
- Burgos-Ayala A, Rodríguez-Buitrago AG. Expresiones de desigualdad educativa en Colombia: una reflexión desde los indicadores de contexto, acceso y resultado. Cultura Científica. 2021;1(19):59-78. https://doi.org/mcxj.
- 9. Organisation for Economic Co-operation and Development (OECD). Reviews of National Policies for Education. Education in Colombia. París: OECD Publiishinh; 2016. https://doi.org/mcxr.
- Comisión Económica para América Latina (CEPAL), Organización de las Naciones Unidas para la Educación la Ciencia y la Cultura (UNESCO). La educación en tiempos de la pandemia de COVID-19. CEPAL, UNESCO; 2020.
- 11. Cáceres MG, Gaggini ML, Otero LA, Tempesta Ravea SP. Situaciones comunicativas y desigualdad en tiempos de pandemia. Aproximaciones desde la fonoaudiología. In: Artiñano NA, Cuenca A, editors. XII Jornadas de Investigación, Docencia, Extensión y Ejercicio Profesional. Itinerarios de intervención social ante la pandemia: estrategias y desafíos colectivos para el Trabajo Social y las Ciencias Sociales. La Plata: Facultad de Trabajo Social, Universidad Nacional de la Plata; 2021.
- 12. Hall-Mills S, Johnson L, Gross M, Latham D, Everhart N. Providing Telepractice in Schools During a Pandemic: The Experiences and Perspectives of Speech-Language Pathologists. Lang, Speech Hear Serv Sch. 2022;53(2):290-306. https://doi.org/mcx2.
- 13. Bauer KL, Lyer SN, Boon RT, Fore C. 20 Ways for Classroom Teachers to Collaborate With Speech—Language Pathologists. Intervention in School and Clinic. 2010;45(5):333-7. https://doi.org/cbxmkj.
- 14. Powell RK. Unique Contributors to the Curriculum: From Research to Practice for SpeechLanguage Pathologists in Schools. Lang, Speech, Hear Serv Sch. 2018;49(2):140-7. https://doi.org/gddb66.
- Colombia. Ministerio de Salud y Protección Social (MinSalud). Perfiles y competencias profesionales en salud. Perspectiva de las profesiones, un aporte al cuidado de la salud, las personas, familias y comunidades. Bogotá D.C.: MinSalud; 2016.
- Moreno-Chaparro J, Calderón-Calvo A, Cubillos-Mesa C, Moreno-Angarita M. Política y práctica: servicios de fonoaudiología y terapia ocupacional para la primera infancia colombiana. Rev. Fac. Med. 2018;66(1):97-102. https://doi.org/mcx3.
- 17. World Health Organization (WHO). International classification of functioning, disability and health (ICF). Gineva: WHO; 2001.
- 18. Cuervo-Echeverri C. La profesión de fonoaudiología: Colombia en perspectiva internacional. Santa Fe de Bogotá: Universidad Nacional de Colombia; 1998.
- Colombia. Congreso de la República. Ley 376 de 1997 (julio 4): Por la cual se reglamenta la profesión de Fonoaudiología y se dictan normas para su ejercicio en Colombia. Bogotá D.C.: Diario Oficial 43079; july 9 1997.
- 20. Colombia. Ministerio de Educación Nacional. Resolución 2565 de 2003 (octubre 31): Por la cual se establecen parámetros y criterios para la prestación del servicio educativo a la población con necesidades educativas especiales. Bogotá D.C.: Diario Oficial 45357; october 31 2003.
- 21. Flórez-Romero R. El lenguaje en la educación: una perspectiva fonoaudiológica. Bogotá D.C.: Universidad Nacional de Colombia; 2004.
- 22. Colombia. Presidencia de la República. Decreto 1075 de 2015 (mayo 26): Por medio del cual se expide el Decreto Único Reglamentario del Sector Educación. Bogotá D.C.: Diario Oficial 49523; may 26 2015.
- 23. Quintero-Uribe JF, Montoya-Otalvaro JA. Percepciones de un grupo de fonoaudiólogos Colombianos sobre su rol profesional en la educación inclusiva. Rev. Colomb. Rehabil. 2018;17(1):38-45. https://doi.org/mcx4.
- Daza-Timana GE, López-Higuera A, Mosquera-Ruiz MG, Erazo-Ortiz JM, Pino-Diaz EA, Barreto-Fernández YE, et al.
  Modelos Teóricos de Rehabilitación en Salud y la Práctica Fonoaudiológica: Una mirada desde los componentes de la CIF. Areté. 2017;17(2):59-68. https://doi.org/mcx5.
- Quintero-Uribe JF, Osorio-Montoya ML. Discapacidad, diversidad e inclusión: concepciones de fonoaudiólogos que trabajan en educación inclusiva. Rev. Fac. Nac. Salud Pública. 2018;36(3):53-60. https://doi.org/mcx6.
- 26. Torres J, Sáez N, Reyes M, Narváez L. Percepción de maestras sobre el acompañamiento fonoaudiológico en un centro de desarrollo infantil en Colombia. Rev. Chil. Fonoaudiol. 2018;17:1-17.
- 27. Montes-Rotela M, Redondo-Martínez L, Lastre-Meza K. Tendencias de la investigación en fonoaudiología: el caso De La Universidad De Sucre. Rev. Colomb. Rehabil. 2015;14(1):98-108. https://doi.org/mcx7.
- 28. Pierre J, Pierre C. Governing the Voice: A Critical History of Speech-Language Pathology. Foucault Studies. 2018;(24):151-84. https://doi.org/gsr9tc.
- 29. Christopulos TT, Kean J. General education teachers' contribution to the identification of children with language disorders. Perspectives. 2020;5(4):770-7. https://doi.org/mcx8.
- Menting B, Van Lier PAC, Koot HM. Language skills, peer rejection, and the development of externalizing behavior from kindergarten to fourth grade. J Child Psychol Psychiatry. 2011;52(1):72-9. https://doi.org/df7ggt.

- 31. Dockrell JE, Howell P, Leung D, Fugard AJB. Children with Speech Language and Communication Needs in England: Challenges for Practice. Front. Educ. 2017;2:35. https://doi.org/mcx9.
- Tambyraja SR, Schmitt MB. Embedding Evidence-Based Practices to Address Literacy in School-Based Speech-Language Therapy. Top Lang Disorders. 2020;40(4):341-56. https://doi.org/mczb.
- 33. Abou-Elsaad T, Afsah O, Rabea M. Identification of phonological processes in Arabic-speaking Egyptian children by single-word test. J Commun Disord. 2019;77:80-93. https://doi.org/mczc.
- Joye N, Broc L, Olive T, Dockrell J. Spelling performance in children with developmental language disorder: A meta-analysis across European languages. Scientific Studies of Reading. 2019;23(2):129-60. https://doi.org/mczd.
- 35. Ciccone N, Hennessey N, Stokes SF. Community-based early intervention for language delay: a preliminary investigation. Int J Lang Commun Disord. 2012;47(4):467-70. https://doi.org/cgtm.
- 36. Fricke S, Bowyer-Crane C, Haley AJ, Hulme C, Snowling MJ. Efficacy of language intervention in the early years. J Child Psychol Psychiatry. 2013;54(3):280-90. https://doi.org/f4pfxj.
- 37. American Speech-Language-Hearing Association (ASHA). School-Based Service Delivery in Speech-Language Pathology. Rockville: ASHA; 2022 [cited 2024 Jan 18] Available from: https://bit.ly/4b32N4b.
- 38. Carson KL, Gillon GT, Boustead TM. Classroom phonological awareness instruction and literacy outcomes in the first year of school. Lang Speech Hear Serv Sch. 2013;44(2):147-60. https://doi.org/f44jvf.
- 39. Kruse LG, Spencer TD, Olszewski A, Goldstein H. Small groups, big gains: Efficacy of a tier 2 phonological awareness intervention with preschoolers with early literacy deficits. Am J Speech Lang Pathol. 2015;24(2):189-205. https://doi.org/gnpwf6.
- 40. Flórez-Romero R, Restrepo MA, Schwanenflugel P. Promoción del alfabetismo emergente y prevención de las dificultades en la lectura: una experiencia pedagógica en el aula de preescolar. Avances en Psicología Latinoamericana. 2009;27(1):79-96.
- 41. Organización Mundial de la Salud (OMS). Sordera y pérdida de la audición Datos y cifras. Geneva: OMS; 2023 [cited 2024 Jan 18]. Available from: https://bit.ly/428mR1c.
- 42. Ebbels SH, McCartney E, Slonims V, Dockrell JE, Norbury CF. Evidence-based pathways to intervention for children with language disorders. Int J Lang Commun Disord. 2019;54(1):3-19. https://doi.org/mc3j.
- 43. Lara-Díaz MF, Gómez-Fonseca ÁM, García M, Guerrero Y, Niño L. Relaciones entre las dificultades del lenguaje oral a los 5 y 6 años y los procesos de lectura a los 8 y 9 años. Rev Fac Med. 2010;58(3):191-203.
- 44. Speech Pathology Association of Australia Limited. Speech Pathology Australia: Speech Pathology in Schools Project. Melbourne: Speech Pathology Australia; 2017 [cited 2024 Jan 18]. Available from: https://bit.ly/4bgkpdd.
- 45. Johnson CJ, Beitchman JH, Brownlie EB. Twenty-year follow-up of children with and without speech-language impairments: family, educational, occupational, and quality of life outcomes. Am J Speech Lang Pathol. 2010;19(1):51-65. https://doi.org/dfq2kx.
- 46. Kaiser AP, Roberts MY. Advances in Early Communication and Language Intervention. Journal of Early Intervention. 2011;33(4):298-309. https://doi.org/fx67g9.
- 47. Alighieri C, De Bock M, Galiwango G, Sseremba D, Van Lierde K. Pediatric speech-language pathology in East Africa: educational opportunities and availability of speech-language services. Logoped Phoniatr Vocol. 2023;48(4):154-62. https://doi.org/mc3m.
- 48. Zahir MZ, Miles A, Hand L, Ward EC. Opportunities to Enhance Children's Communication Development at School in Underserved Communities. LSHSS. 2022;53(1):104-21. https://doi.org/mc3n.
- Franciscatto MH, Del Fabro MD, Lima JCD, Trois C, Moro A, Maran V, et al. Towards a speech therapy support system based on phonological processes early detection. Computer Speech & Language. 2021;65:101130. https://doi.org/ghf4hg.
- 50. Robles-Bykbaev VE, Guamán-Murillo W, Quisi-Peralta D, López-Nores M, Pazos-Arias JJ, García-Duque J. An ontology-based expert system to generate therapy plans for children with disabilities and communication disorders. In: 2016 IEEE Ecuador Technical Chapters Meeting (ETCM). Guavaquil: IEEE; 2016.
- 51. Leiton-Jiménez IM, Morales-Sánchez C, Moreno-Gañan LV. La participación del fonoaudiólogo en los diseños del plan individual de ajustes razonables (PIAR) en los colegios distritales inclusivos de la ciudad de Bogotá [thesis]. Bogotá D.C.: Corporación Universitaria Iberoamericana; 2018.
- 52. Individuals with Disabilities Education Act. United States Government; 2004.
- 53. Chile. Ministerio de Educación. Decreto 170 de 2009 (mayo 14): Fija normas para determinar los alumnos con necesidades educativas especiales que serán beneficiarios de las subvenciones para educación especial. Santiago; april 21 2010.
- 54. Chile. Ministerio de Educación. Decreto 83 de 2015 (enero 30): Aprueba criterios y orientaciones de adecuación curricular para estudiantes con necesidades educativas especiales de educación parvularia y educación básica. Santiago; february 5 2015.
- 55. Loudermill C, Greenwell T, Brosseau-Lapré F. A comprehensive treatment approach to address speech production and literacy skills in school-age children with speech sound disorders. Semin Speech Lang. 2021;42(2):136-46. https://doi.org/gq6q29.

- 56. Yildiz MG, Bilal N, Kara I, Sagiroglu S, Orhan I, Doganer A. Voice Disorders in Lower Primary School Teachers: An Observational Study. J Voice. 2023;37(1):141.e1-8. https://doi.org/mc3p.
- 57. da Rocha LM, Behlau M, Souza LDM. Risk Factors for Recurrent Perceived Voice Disorders in Elementary School Teachers-A Longitudinal Study. J Voice. 2021;35(2):325.e23-7. https://doi.org/mc3q.
- 58. Vertanen-Greis H, Loyttyniemi E, Uitti J, Putus T. Work ability of teachers associated with voice disorders, stress, and the indoor environment: A questionnaire study in Finland. J Voice. 2022;36(6):879.e5-11. https://doi.org/grnmmb.
- 59. He S, Smargiassi A, Low N, Bilodeau-Bertrand M, Ayoub A, Auger N. Residential noise exposure and the longitudinal risk of hospitalization for depression after pregnancy: Postpartum and beyond. Environ Res. 2019;170:26-32. https://doi.org/mc3r.
- Seidler A, Hegewald J, Seidler AL, Schubert M, Wagner M, Dröge P, et al. Association between aircraft, road and railway traffic noise and depression in a large case-control study based on secondary data. Environ Res. 2017;152:263-71. https://doi.org/f9g9gh.
- 61. Clark C, Head J, Haines M, van Kamp I, van Kempen E, Stansfeld SA. A meta-analysis of the association of aircraft noise at school on children's reading comprehension and psychological health for use in health impact assessment. J Environ Psychol. 2021;76:101646. https://doi.org/grz3mj.
- 62. Colombia. Ministerio de Educación Nacional (Mineducacion). Jornada única: tiempo escolar de calidad para el aprendizaje y el desarrollo integral de los niños, niñas, adolescentes y jóvenes en Colombia. Nota técnica. Bogotá D.C.: Mineducación; 2022.
- 63. American Speech-Language-Hearing Association (ASHA). Roles and responsibilities of speech-language pathologists in schools. Rockville: ASHA.