

COVID 19, technology-based education and disability: The case of Colombia

Emerging practices in inclusive
digital learning for students
with disabilities

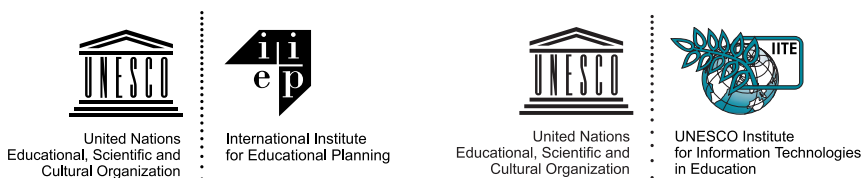


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Abbreviations and acronyms

Asdown	Colombian Association of Down Syndrome
CEA	accessible educational content
CEPAL	Economic Commission for Latin America and the Caribbean
CPPD	Presidential Council for the Participation of People with Disabilities
DANE	National Statistics Department
DPO	disabled people's organization
FENASCOL	National Federation of the Deaf of Colombia
FSC	Saldarriaga Concha Foundation
HEIs	higher education institutions
ICT	information and communication technology
IIEP	International Institute for Educational Planning
INCI	National Institute for the Blind
INSOR	National Institute for the Deaf
JAWS	Job Access with Speech
LSC	Colombian Sign Language
MEN	Ministry of National Education
MinICT	Ministry of Information Technologies and Communications
NDS	National Disability System
NNA	girls, boys, and adolescents
NGO	non-governmental organization
PIAR	Individual Adjustment Plan
RTVC	Radio Television Colombia
SENA	National Vocational Training Agency
SIMATE	Student Enrolment System
UNPRPD	United Nations Partnership on the Rights of Persons with Disabilities

1. Introduction

1.1. Background

The UNESCO International Institute for Educational Planning (IIEP) has carried out a research project on ‘COVID-19 and education: A case study on emerging practices in inclusive digital learning for learners with disabilities’. This research contributes to the achievement of the goals of the Global Programme Supporting Disability Inclusive COVID-19 Response and Recovery at National Level, funded by the United Nations Partnership on the Rights of Persons with Disabilities (UNPRPD).

This Global Programme leverages the experience of nine UN agencies, organizations of persons with disabilities, and broader civil society to support countries and other global initiatives to incorporate a strong disability-inclusive perspective to the COVID-19 response and recovery.

COVID-19 has exacerbated inequalities in access to educational opportunities of marginalized populations, especially learners with disabilities. Yet limited emerging evidence from UNESCO Member States indicates that digital technology solutions can provide learners with disabilities with increased access to educational opportunities.

According to the UN Economic Commission for Latin America and the Caribbean (CEPAL) (Meresman and Ullmann, 2020), more than 70 million people with disabilities reside in Latin America and the Caribbean. Before the COVID-19 pandemic, people with disabilities were already among the most excluded in this region. With the arrival of this health crisis and its devastating social and economic impacts, they will be among the most affected, along with their families, which will affect their situation of exclusion and marginalization adversely.

The association between poverty and disability is one of the factors underlying the persistent exclusion of this population. Studies (Meresman and Ullmann, 2020; United Nations, 2020a) on the link between disability and poverty show that it is a complex and interdependent relationship that operates through various channels. Disability is a cause and, in turn, a consequence of poverty.

The school environment also presents particular complexities for students with disabilities and their families in the context of the pandemic. The interruption of activities in schools will have significant effects on the learning of those with disabilities and could also affect their nutritional status, since many students from vulnerable households with disabilities depend on school meal programmes. Although plans have been made to promote the use of digital devices in education systems, there are gaps in access to computers and the internet and limitations in skills for their use in homes with people with disabilities in the region (Meresman and Ullmann, 2020).

The closure of schools and the transfer of much of the responsibility for accompanying and supporting learning from teachers to parents (mainly mothers) and caregivers also presents a challenge if they do not have the skills and didactic techniques to meet the learning needs of their children. Lockdown and movement restrictions can also aggravate the situation for students with certain types of disabilities, for example, those with autism spectrum disorder, whose routines reduce stress and anxiety. Disruption of these routines due to lockdown can negatively affect the well-being of these learners and their families. Lockdown also increases exposure to domestic violence for women and children with disabilities (Meresman and Ullmann, 2020; United Nations, 2020b).

Colombia is one of the three countries selected for this research, together with Bangladesh and Mauritius. Its educational sector has distinguished itself through innovative experiences in the past three decades. In recent years, national bodies such as the Ministry of Education and the Ministry of Information Technologies and Communications (MinICT) have launched specific programmes for the inclusion of students and people with disabilities both at formal education in all levels and also as part of a lifelong learning strategy. Colombia also has institutes that specialize in providing educational services to people with hearing and vision impairment.

Colombia enjoys an active participation of civil society through non-governmental organizations (NGOs) and foundations dedicated to guaranteeing the inclusion of the disabled population in education. The number of disabled people's organizations (DPOs) is high, and they have a large influence at policy level. Finally, Colombia, at the level of both public and private entities, has designed and implemented a variety of strategies and innovative programmes in response to the problems of inequality that the COVID-19 pandemic has brought about.

1.2. Objective

The study will describe the opportunities and challenges related to the utilization of information and communication technology (ICT) to create more inclusive learning environments in Colombia. It will present and analyse key features of the national policy and one or two emerging initiatives. In each case, it will review, for each target population, accessible ICT products¹ and services in formal and non-formal educational settings.

1.3. Methodology

This case study followed a mixed-method approach reflecting the results of the following activities:

- Review of the regulatory framework and national policy on inclusive education in general, as well as aspects related to ICT, particularly learning mediated by platforms, apps and digital resources for learners with disabilities.
- Review of the strategies and programmes at the national level implemented by entities responsible for inclusion policies, inclusive education, ICTs, and digital learning for disabled students, in both formal and non-formal settings:
 - a. Ministry of National Education of Colombia (MEN) Vice Ministry of Basic Education, the unit responsible for the implementation of educational inclusion
 - b. National Institute for the Deaf (INSOR), a public establishment of the national order of a technical advisory nature, attached to the MEN, with legal status, administrative and financial autonomy, and independent assets
 - c. National Institute for the Blind (INCI), a public entity of the national order of a technical advisory nature attached to the MEN, with legal status, administrative and financial autonomy, and independent assets
 - d. Ministry of Information Technologies and Communication (MinICT), in charge of designing, adopting, and promoting policies, plans, programmes, and projects in the ICT sector
 - e. Broad participation of civil society in Colombia.
- Semi-structured interviews with officials of the MEN, INSOR, MinICT. Analysis of the information provided.
- Semi-structured interviews with people directly involved in the educational experiences:
 - a. Principals and teachers
 - b. Leading service providers (foundations)
 - c. Direct beneficiaries
- The analysis is based on the scope of the findings and information provided by the different sources used to respond to the research questions of the information analysis matrix in each category: relevance and appropriateness, effectiveness, impact, and sustainability.
- The main lessons learned at the national, local, and school levels allowed for the proposal of some recommendations.

¹ 'Accessible ICT products' refers to their built-in accessibility functions.

2. Colombia case study

2.1. Defining and identifying disabled populations

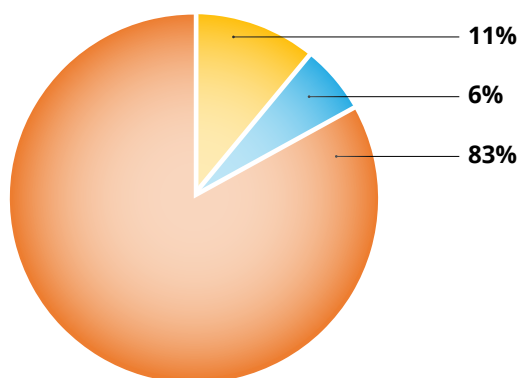
Colombia moves back and forth between a biomedical model approach and a social model approach. The first considers disability from the perspective of physical impairment (a decrease or elimination of motor or physical abilities), intellectual impairment, or sensory impairment (existence of limitations or deficiencies in any of the senses that allow the perception of the environment, whether external or internal) or as a physical or mental illness that requires medical attention. This approach was used in the 1993 and 2005 censuses conducted by National Statistics Department (DANE). Many later studies characterizing the population with disabilities used this approach.

In the 2018 population census (also used for household surveys), DANE used the social-functional approach defined by the World Health Organization (WHO), reflected in the new International Classification on Functioning, Disability and Health (ICF) and accepting the methodology and severity scale formulated by the Washington Group on Disability Statistics (WG). This model understands disability as the result of the interaction between a person with a functional limitation (difficulties in performing basic functional activities) and a poor environment to adapt to, resulting in the inability to fully participate in society. It used this international classification with the response categories of No difficulty; Some difficulty; A lot of difficulty; Cannot do at all – ‘disability’ is not mentioned in the questions (DANE, 2019). This has made it difficult to have a clear overview of the figures and characteristics of the disabled population in the country, due to a possible under-registration or misinterpretation of definitions.

2.2. Information about the proportion of the population with a disability

Figure 1. People with disabilities by age

- 3–17
- 18–24
- ≥25

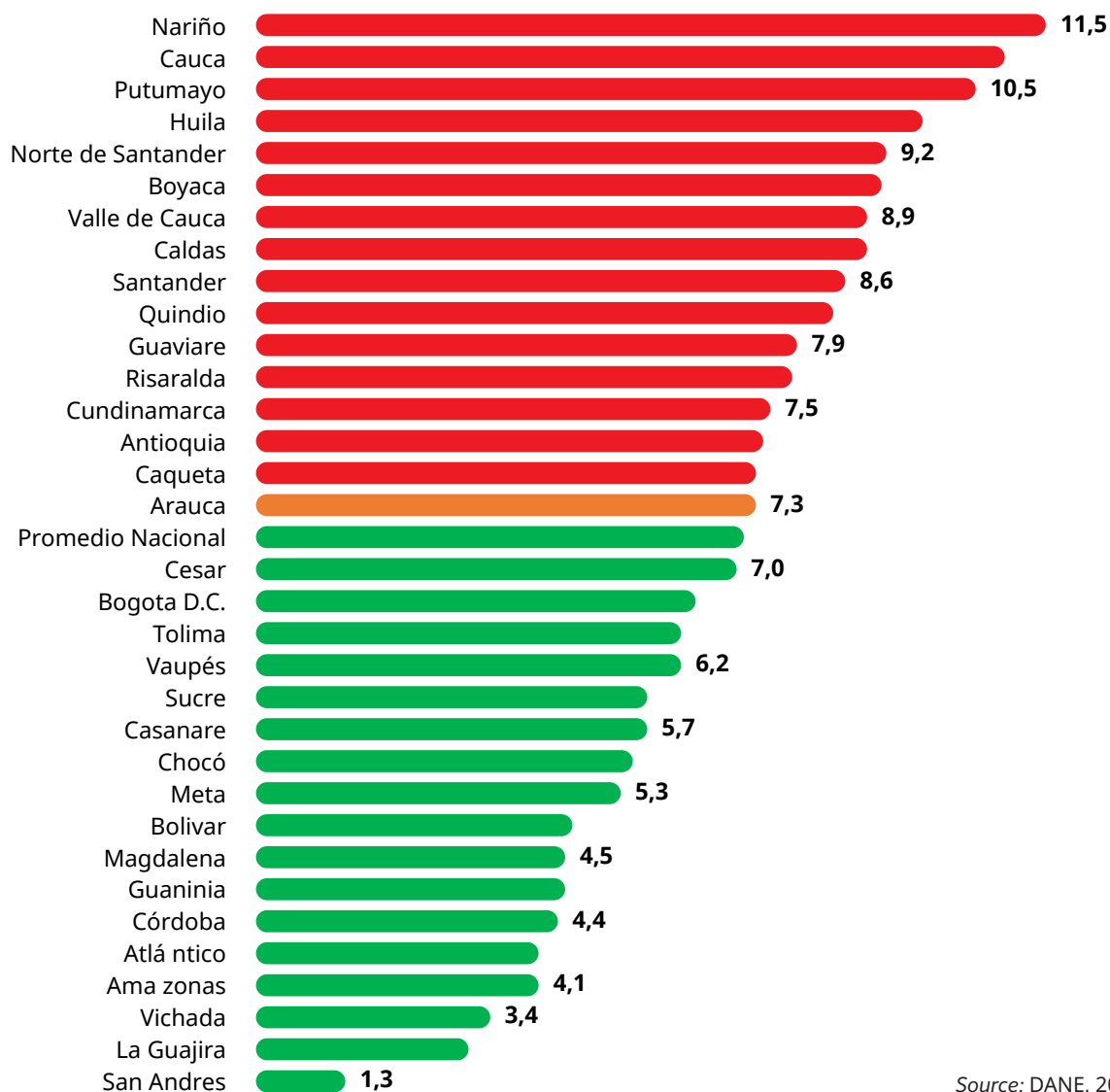


Source: DANE, 2019.

Note: ECLAC/CELADE, 2007-2020.

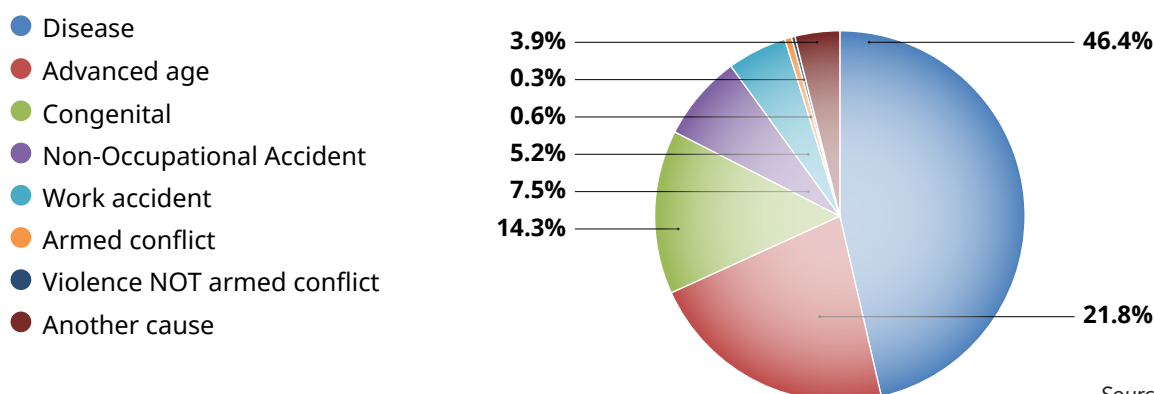
According to the National Population and Housing Census CNPV-2018, there are 3,134,036 people with some difficulty in carrying out daily activities, of which 1,784,372 have severe disabilities. Of these, 54 per cent are women and 46 per cent are men (DANE, 2019). By age group (*Figure 1*), girls and boys from 3 to 17 years old (school age) represent 11 per cent of the disabled population, young people from 18 to 24 years old account for 6 per cent of the population with disabilities, and 83 per cent are people 25 years or older. It should be noted that in this last age group, the elderly (60 years or older) are the larger group with some difficulty (21 per cent of the total).

Figure 2. National prevalence of disability by region



Source: DANE, 2019.

Figure 3. Percentage of origin of disability



Source: DANE, 2019.

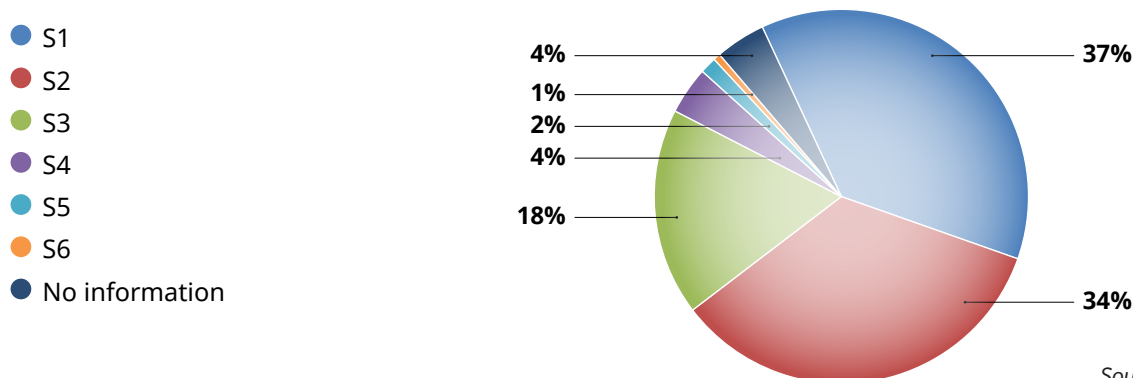
The prevalence of disability in Afro-Colombian populations is 6.5 per cent, in indigenous populations it is 6 per cent, and in Gitano/Roma 7.2 per cent. The prevalence in rural areas (populated centres and dispersed rural areas) is 8.5 per cent, significantly higher than in municipal capitals (6.7 per cent), which confirms the gap between rural and urban areas (DANE, 2019).

The national prevalence of disability is 7.1 per cent. The regions that exceed this average correspond to the south-west of the country (Nariño, Cauca, Valle del Cauca, Putumayo) as is shown in *Figure 2*. It should be noted that these are departments that have historically experienced high levels of armed conflict and poverty (DANE, 2019).

Most cases of disability are due to diseases (46.4 per cent) as is shown in *Figure 3*. The other origins of disability – such as armed conflict – can be seen as preventable (DANE, 2019).

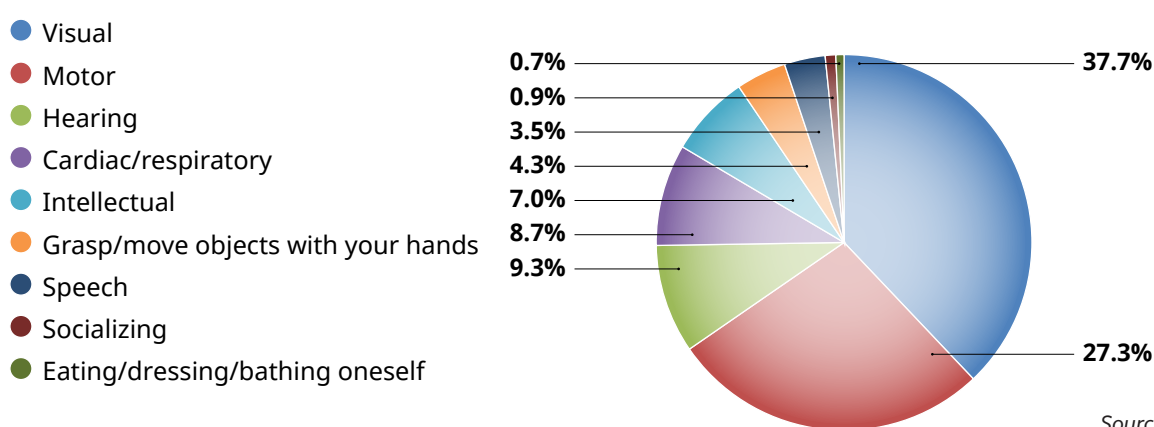
It is clear that in Colombia, as in many other countries of Latin America, there is a strong link between disability and poverty conditions. As is shown in *Figure 4*, a full 71.5 per cent of people with disabilities are found in the lowest socio-economic groups in the country (strata² 1 and 2) (DANE, 2019). The distribution of the type of disabilities shows that the greater percentage is associated with vision problems (37 per cent), followed by difficulty with mobility (27.3 per cent) (*Figure 5*).

Figure 4. Disability by socio-economic level



Source: DANE, 2019.

Figure 5. Distribution of type of disability



Source: DANE, 2019.

2.3. Disability snapshot during the pandemic

As observed by international and multilateral organizations (and analysed in various international and regional studies about Latin America) people with disabilities are at greater risk and vulnerable to the economic, social, and health-related effects of the COVID-19 pandemic, as well as other related emergency situations (United Nations, 2020a; Meresman and Ullmann, 2020).

A bulletin issued in 2020 by DANE (*Personas con discapacidad, retos diferenciales en el marco del COVID-19*) showed a panorama of the main events and challenges that people with disabilities have faced during the pandemic. The following illustrates some of these additional challenges. Some emerging evidence of what happened in Colombia during the pandemic for people with disability are:

² Strata are socio-economic classifications from the poorest (stratum level 1) to the wealthiest socio-economic level (stratum level 6).

- *Disability support of caregivers.* Of the almost 1.8 million people with severe disabilities, 34.6 per cent receive help from other people to carry out their daily activities; these people are mostly female caregivers (55 per cent). Additionally, it is estimated that at least 41,000 households receive external assistance for care.

What has happened to these supports of caregivers during the pandemic? As several studies indicate, 'It is possible that people with disabilities do not have the support of other people at this time of emergency, either because they do not live with the person with disability and cannot move during isolation or because the caregiver within the home has an increased care burden' (Dane, 2020, p. 5).

- *The modalities for caring for children and adolescents with disabilities* have been affected by the new distribution of household tasks during the pandemic. Parents need to care for other children, must work from home, or cannot get the support of other people who would normally care for people with disabilities.

In Colombia, 5.82 per cent of the disabled population live in single-parent households and are children of the person declared as head of the household, most of whom are women (DANE, 2020).

- *Internet access is another infrastructure barrier* that complicates the accessibility that disabled populations have to education and health services under biosecurity conditions, particularly in a pandemic.

In Colombia, 65.4 per cent of the population with disabilities do not have internet access at home.

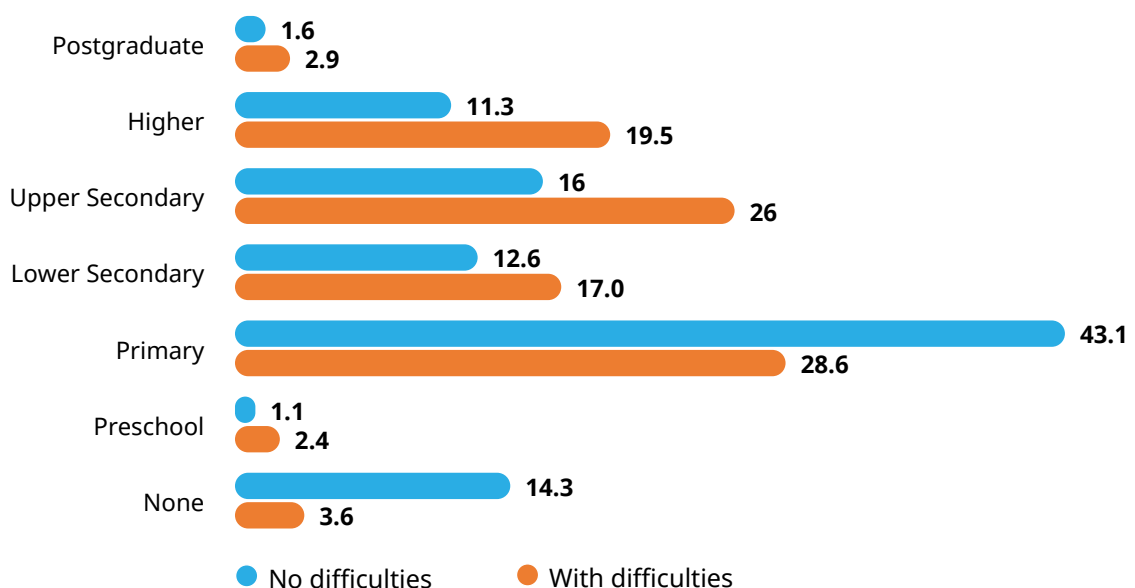
This prevents these people from making online purchases, working and studying from home, or receiving health care and psychosocial support through videoconference (DANE, 2020).

Personal contact and socialization. For many learners with disabilities, being at school is their only opportunity for socializing with people who can speak sign language; in many cases their families do not understand them, so at home they spend most of their time alone and without communication, even if they are surrounded by people. An example of this was presented in a news broadcast by the digital newspaper *La Silla Vacía* in November 2020, in an interview with the director of *PONES Foundation (Dora Baron)* (a foundation that offers non-formal education to young people): Deaf students who used to go to the foundation are now restricted to communicating through Zoom sessions of 40 minutes, using sign language ... it is clear that these sessions do not compensate for the physical contact that they used to have ... the students of the foundation lost the sounds of the world years ago, but the pandemic also made them lose contact with their hands...' (GARZON and GALVIS, 2020).

2.4. Educational levels within the population with a disability

Illiteracy among people with disabilities is three times higher (17 per cent) than that observed for people without disabilities (5.2 per cent) and almost three times higher than the national average (6.1 per cent).

Figure 6. Education levels of persons with disabilities



Among people with disabilities, 14.3 per cent have not studied beyond primary education. People with disabilities have a statistically lower chance of accessing and/or completing different levels of education. As shown in *Figure 6*, only 12.6 per cent have completed lower secondary and 16 per cent have finished the upper secondary level cycle. Access and completion at the higher education level are even lower, with 11.3 per cent finishing higher education and only 1.6 per cent obtaining a postgraduate degree.

2.5. National policies for the promotion of the inclusion of people with disabilities

Colombia has a robust regulatory framework for the protection, care, and inclusion of people with disabilities. The most relevant legislation is the national constitution, the mandate of which is to protect every person who, due to her/his physical or mental condition, is vulnerable to exclusion or abuse.

Even though the constitutional mandate was adopted in 1991, it was only after 2007 that the first tools were developed to give a concrete definition through the National Inclusion Policy for people with disabilities. These legal tools are:

- *Law 1145 (2007)* with the objective to create and define the National Disability System (NDS). This system promotes the formulation and implementation of public policies for people with disabilities in a coordinated manner among all public institutions at the national, regional, and local levels, as well as with civil society organizations and associations for persons with disabilities in order to promote and guarantee their fundamental rights, within the national human rights framework.
- *Law 1346 (2009)*, which confirmed the adhesion of Colombia to the Convention on the Rights of Persons with Disabilities, adopted by the General Assembly of the United Nations on 13 December 2006.
- *Statutory Law 1618 (2013)*, which established the conditions to guarantee the full exercise of the rights of persons with disabilities.

Based on this legal framework, Colombia launched the National Public Policy of Disability and Social Inclusion (2013–2022) in May 2013 to ensure the full rights of people with disabilities, their families, and their caregivers.

The two sectors that are directly responsible for the education of people with disabilities are the education sector and the ICT sector. Their work is influenced by a large number of regulations that guide both the provision of educational and cultural services for this population as well as the coordination between the two sectors. The main regulations and their scope are mentioned below:

- *Decree 1421 (2017)*, which establishes the guarantee of quality education for all students, within the framework of inclusive education.
- *Law 1341 (2009) (ICT Law)*, in which principles and concepts are defined related to the information society and the organization of ICTs, including those specific to people with disabilities.
- *Pact for the inclusion of all persons with disabilities* (integrated in the National Development Plan 2019–2022). This is a partnership for the inclusion and dignity of all persons with disabilities through actions in education, employment, and mobility, with the support of ICTs.
- *Inclusion ICTs Policy (2018)* establishes the rights to access information and communication through the promotion and use of ICTs for the benefit of people with disabilities. This is a fundamental part of the country's equitable development.
- *Inclusive and intercultural higher education policy guidelines of 2013*. These seek to encourage higher education institutions (HEIs) to define actions and strategies that strengthen the differential approach in access, retention, and quality of the HEIs as a protection of diverse population groups, which include people with disabilities.

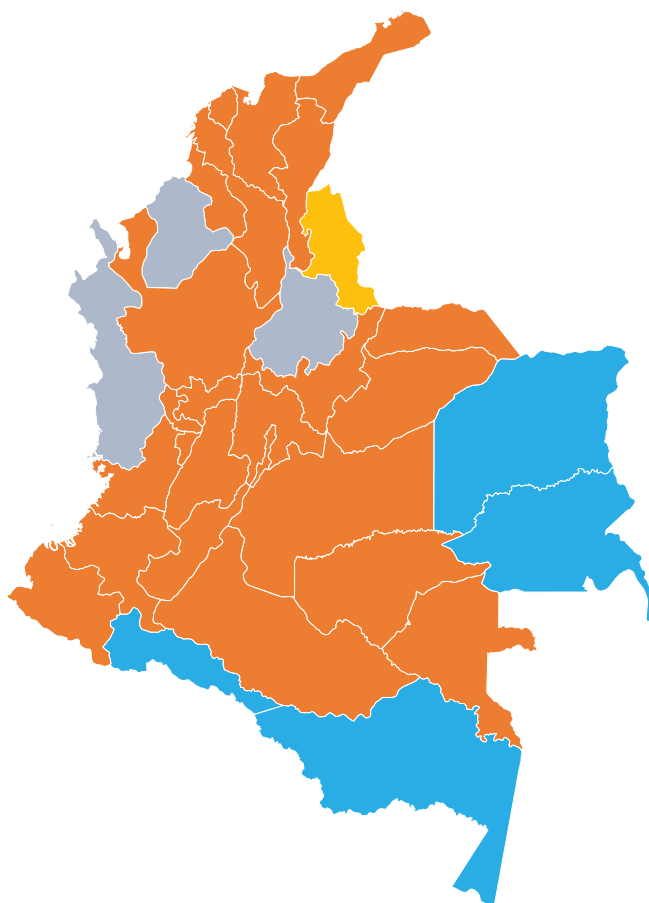
2.6. Institutional framework to serve people with disabilities

Colombia has the *NDS*, which establishes guidelines, rules, activities, resources, programmes, and institutions needed for the implementation of Law 1145 of 2007 (Sistema Nacional de Discapacidad NDS, 2021).

The *Presidential Council for the Participation of People with Disabilities* (CPPD, acronym in Spanish) is the governing body of the NDS. The CPPD has the responsibility of: (a) coordinating and articulating the actors who are part of the National Disability Council; (b) coordinating and articulating the monitoring of the degree of compliance of government agencies with current regulations on inclusion; (c) leading the management of international cooperation resources, alliances with the private sector, and partnerships with the regions and with the academic sector; and (d) promoting public policies in support of people with disabilities at the territorial level and signing agreements with departmental, municipal and district committees. *Figure 7* shows how the policies have been implemented to varying degrees across Colombia.

Figure 7. Policies implemented by region

- No
- No information
- Yes
- In progress



The NDS mirrors the political-administrative structure of a decentralized country like Colombia, and it is composed of the following groups:

- *National Council on Disability*: Consultative body, advisory role in support of all concerned public departments, responsible for the monitoring and evaluation of the system and the National Public Policy on Disability. Its members are representative of the national and local authorities. The MEN and the MinICT are two of the main ministries that participate. Other members are representatives of DPOs, along with academic and legal advisors.
- *Departmental and district disability committees*: The intermediate levels of consultation, advice, coordination, and monitoring of public policy on disability.
- *Municipal and local disability committees*: Responsible for designing and monitoring the strategy and interventions to implement the public policy on disability at the local level.
- *Ministries*: Although there are many ministries involved in the care of people with disabilities in the case of education interventions, two ministries are responsible for guaranteeing the care and inclusion of this population in the formal education system and providing opportunities for non-formal education, especially to adults with disabilities. Those are:
 - *Ministry of National Education*: The Vice-Ministry of Pre-School, Primary and Secondary Education, and the Vice-Ministry of Higher Education are responsible for guaranteeing inclusive and quality education. MEN regulates the paths and conditions for educational service provision to the population with disabilities at the preschool, primary, secondary (lower and upper secondary) and tertiary education level. All regulations issued by the ministry must be followed by all schools, whether public or private, and tertiary education institutions.³

3 At this level there are some limitations because of the university autonomy that Law 30 provides to these institutions.

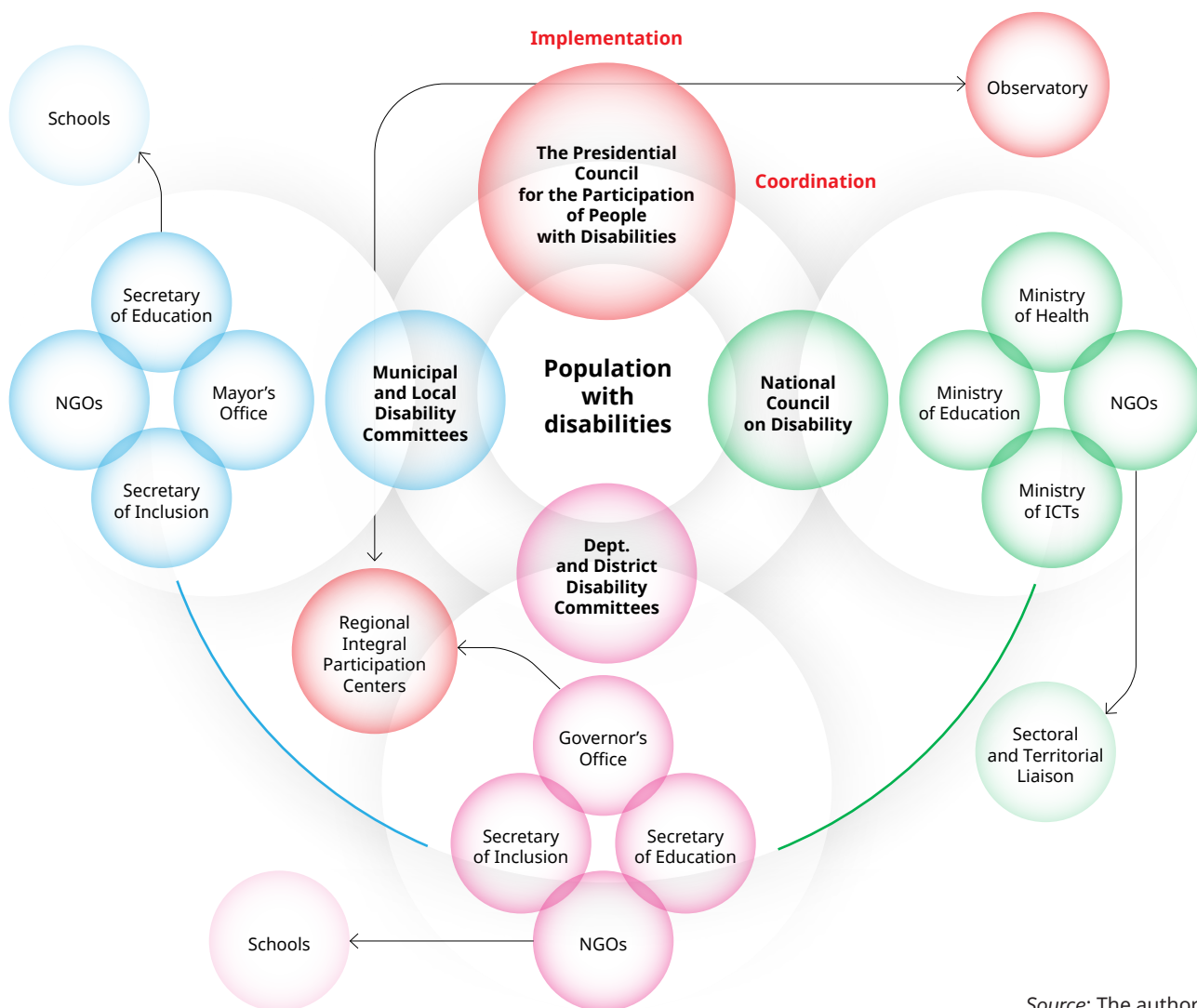
The MEN has a special unit to support territorial entities and schools with different strategies and programmes for students with disabilities. At the national level, there are two institutions that support the MEN in the provision of educational services with two types of disabilities: INCI, for visual impairment, and INSOR, for hearing impairment.

- *Ministry of Information and Communication Technology:* MinICT has the responsibility of formulating policies, plans and programmes that guarantee access to education through the use of ICTs: improvement in the quality of life of the community; access to markets for the productive sector; and equitable access to opportunities for education, work, health, justice, culture, and recreation, among others. Specifically, for people with disabilities, this ministry has to develop all the technological platforms and instruments to ensure that disabled people can use accessible ICTs (Colombia, 2021a MinICT).
- *Civil society:*
 - *Organizations of persons with disabilities:* Colombia has an active civil society that participates in the delivery of social programmes in an organized manner. A number of associations exist that care for persons with disabilities, specialized by type of disability. Their main function is to protect and promote the rights of these groups. There are also many NGOs and non-profit foundations that serve these groups with respect to a wide range of services (welfare, housing, health, education, work, among others). There are also many organizations that directly support the education sector, especially at the level of departmental and municipal Secretariats of Education and the schools themselves, as well as NGOs that directly offer non-formal education through their own platforms and programmes. Some of the most active associations are the Colombian Association of Down Syndrome (Asdown), the Colombian Association of Deafblindness, the National Coordinator of Organizations for the Visually Impaired, the National Federation of the Deaf of Colombia (FENASCOL), the Colombian Federation of Organizations of People with Physical Disabilities, and the Colombian Federation of Sports for People with Physical Disabilities.
 - *Civil society organizations providing services to people with disabilities:* There are many NGOs and foundations that support people with disabilities, many of which are involved in the education sector. Few of them work in both formal and non-formal education for students with disabilities. To describe the type of interventions that foundations and NGOs organize to support students, the Saldarriaga Concha Foundation (FSC acronym in Spanish) has been selected as one of the most important partners of both the MEN (national, territorial, and school level) and MinICT. FSC is a family foundation that was established in 1973 by parents whose son was born with a disability. They bequeathed all their wealth to this foundation. FSC's objective is to strengthen solidarity in Colombia and to turn the country into a society that recognizes and respects people with disabilities and the elderly. Its main interventions are in the education sector, entrepreneurship and income generation, and health and well-being.

National Observatory of Disability: The Ministry of Health and Social Protection has a department dedicated to the promotion, generation, collection, analysis, and dissemination of information on disability in Colombia.

Figure 8 illustrates the complexity of the NDS, but also shows the participation of various levels of government, authorities, and sectors.

Figure 8. National Disability System



Source: The author.

3. National strategies, programmes and instruments used during the pandemic

3.1. Ministry of Education

Although many of the strategies and programmes that the Ministry of Education has implemented during the pandemic to ensure the provision of education for students with disabilities existed already before the pandemic, the pandemic pushed the ministry to expand them and control compliance in a stricter way. This has been done through: (a) permanent communication with the country's education secretaries; (b) conducting multiple webinars; (c) production of guides and orientations to schools; and (d) design and implementation of a special website called 'Learn Digital: Content for Everyone' which is accessible for learners with disabilities.

Key strategies and programmes are as follows:

- Provide schools with additional funding of 20 per cent for each student with a disability reported in the Pre-school, Primary, Lower- and Upper-Secondary Student Enrolment System (SIMAT acronym in Spanish).
- Coordinate with INCI, INSOR, and MinICT the development of digital platforms and content, as well as didactic education material.
- Provide pedagogical, technical, and administrative guidelines (bulletins, digital material, multimedia, etc.) to support education secretaries and schools in the area of inclusive education for students with disability. Each student with a disability will have a specific plan called an individual adjustment project (PIAR, Spanish acronym, for Plan Individual de Ajustes Razonables).
- Provide information and support to families (manuals, circulars, call centres) and to caregivers of students with disabilities for their work at home.
- All students with disabilities continue to receive food supplements offered by the School Food Programme for consumption in homes, which includes three new modalities: the prepared ration, the ration to prepare at home, and the food voucher.
- In partnership with the MinICT programme Computadores para Educar (Computers for Learning) and in coordination with the secretaries of education and schools, a protocol was defined for the loan of equipment (computer, tablet, smartphone) to students with disabilities who require them.
- On 16 March 2020, MEN, in partnership with the MinICT and RTVC, the Public Media System, launched the platform 'Learn Digital: Content for Everyone'. The MEN portal has accessibility elements for people with visual impairment (increased font sizes and contrasting colours, for example) and for people with hearing impairment there is a link to a relay centre (a MinICT tool that allows the help of a sign language interpreter for people with hearing impairments) (Colombia, 2021b MEN).
- The programme *Profe en Tu Casa* (Teacher at Home) is broadcast by Signal Colombia, RTVC Play, the Institutional Channel, and National Radio of Colombia. From Monday to Friday, it is part of the strategy of the Ministry of Education, MinICT, and RTVC to respond to the educational challenges created during mandatory lockdowns.
- INSOR has an online platform that is accessible to children, adolescents, and young people with hearing impairments ([INSOR, 2021](#)) and contains accessible educational resources for deaf students. The portal has a section called Educational Resources, with modules, classes and short videos in mathematics, language, social sciences, and natural sciences; in the LSC Dictionary section, all definitions are presented in both Spanish and Colombian Sign Language (LSC).

- INCI is accessible for children, adolescents, and young people with visual impairments ([INCI, 2021](#)). It offers a web portal with a series of options to support planning work as part of the school curriculum such as INCI Radio and the virtual library for learners with visual impairments.
- The Banco de la República Virtual Library has an accessibility button that allows people with hearing or visual disabilities to be redirected to the relevant available resources in LSC or augmentative tools (www.banrepcultural.org/ninos-y-ninas). Resources for blind people are available at all Cultural and Education Centers, which are equipped with Allreader equipment (intelligent reading machine), JAWS (for Job Access with Speech) screen readers, and Braille text printers. The library offers the 'I Share My Voice programme', which facilitates 'reading-aloud' sessions for the blind population www.banrepcultural.org/programas/biblioteca-para-sordos.
 - National Reading Plan has an accessibility button for students with visual impairment (increases the contrast and allows an increase to the font size) <http://aprende.colombiaaprende.edu.co/leeresmicuento/2100>.
 - Lastly, the Ministry of Education provides all education secretaries and schools with digital resources for the administration and development of classes, as well as meetings, such as Google Classroom/G Suite, Edmodo, Community Your Class, Google Meet, Skype, and Zoom.

Box 1. Good practices during the pandemic

Two initiatives developed at the national level during the pandemic have proven to be good instruments to promote equity and inclusive education.

Learn Digital: Content for Everyone. The MEN's portal has accessibility elements for people with visual impairment (increased fonts, contrasting colours). For people with hearing impairment there is a link to a relay centre (MinICT tool that provides a sign language interpreter for people with hearing impairments). The MEN made available an offer of digital educational content on the educational portal Colombia Aprende (Aprender Digital, 2021) in all areas of knowledge for the use of members of the educational community to complement their learning processes. The portal includes content developed by the educational community, as well as by partners from the public and private sectors and civil society organizations.

Digital content: Through this service, teachers can access the ICT tools provided by Aprender Digital in the Colombia Aprende portal, which includes:

- tools for collaborative work: Office 365, Google Drive
- tools for communication: Google Hangout, Zoom, Microsoft Teams
- file-sharing tools: Dropbox, WeTransfer
- classroom tools: Easyclass, Remind, Socrative, Projeqted, Thing Link, Kahoot
- content tools: Ted Ed, CK-12, Academic Google, EduClipper
- tools for creating activities: Storybird, Ardora, Hopscotch
- tools for creating mind maps: Mindomo, MindMeister
- bibliography management tools: Zotero, Mendeley
- tools to create infographics: Visual.ly, Infogram.

The national and regional TV channels began to broadcast *Profe en Tu Casa* began in April 2020. Students, teachers, and parents can access the RTVC Play platform at any time and find all the episodes there. To promote social inclusion and facilitate the participation of people with hearing impairments, *Profe en Tu Casa* is simultaneously translated into LSC, and people with visual impairments can listen to the programme on Radio Nacional de Colombia. This strategy of using radio, national television, and regional television made it possible to reach areas where connectivity is lacking or deficient, particularly rural and isolated areas.

3.2. National Institute for the Deaf (INSOR)

According to the latest census (2018), among all people with disabilities, 9.3 per cent are deaf. Some of them have related disabilities. In 2020, 9,123 deaf students were enrolled in public schools. In 1984, the Colombian government recognized sign language as the official language of the deaf community of the country. It is important to realize that the deaf population does not encompass only 'persons with disabilities' but also members of the 'linguistic and sociocultural minority', for whom sign language is an element of cohesion.

According to the INSOR technical team:

'At the end of the nineties the education sector, under the influence of international advisors (UN/UNESCO), began to integrate deaf students into the regular schools to study together in the same classrooms with the other students as part of the country's inclusion policy. As a result of this misguided decision, many of the achievements made by deaf communities were lost, translating into a significant setback. The schools for the deaf mostly disappeared. In the same way as the dedicated classes were closed, the social networks and communities that the deaf communities had succeeded in configuring were weakened and withered. Similarly, the bilingual teachers (LSC/Spanish) were removed from the schools and the linguistic models for the deaf disappeared.' (Portilla and Marquez, 2021)⁴

The technical team also stated that, with the Statutory Law 1618 of 2013 and Decree 1421 of 2017, 'It was possible to recover part of what was lost due to all the previous public policy decisions, and to rescue and maintain the bicultural bilingual offer for the population with hearing impairments' (Portilla and Marquez, 2021).

In this latest decree (1421 of 2017), the Ministry of Education allowed parallel classrooms and the inclusion of bilingual teachers who provide training in sign language, along with other technological, didactic, and linguistic support required (among which are interpreters of LSC and linguistic models). For this purpose, the territorial entities may centralize modalities in one or more schools and guarantee transportation for those who must travel far from their place of residence.

The INSOR team consider this new regulation as a big achievement since scientific evidence indicates that 'deaf students need to be concentrated, to acquire the Colombian Sign Language (LSC) as a means of having a vision and understanding of the world, as well as accessing culture and social capital' (Portilla and Marquez, 2021).

INSOR experts have provided many arguments in favour of the special schools or classrooms for deaf students, considering that:

'They enter school with marked comparative disadvantages with respect to hearing students, because on the one hand they come mostly from hearing families, who do not have to promote early learning processes so vital in early childhood that hearing girls/boys have already developed. And on the other hand, many deaf students enter school over-age. Additionally, what really happened with the "inclusion decision" was that teachers followed the study plans for regular students, without even mediating differential content to take the special needs of deaf students into account. Also, teachers do not handle or dominate the LSC and there is a marked absence of relevant materials' (Portilla and Marquez, 2021).

One of the most important tasks of INSOR is the production of accessible educational content (CEA, as per the acronym in Spanish) given the lack of relevant and good-quality educational material for deaf students. This material must take into account their linguistic and cultural particularities. The design, production, and dissemination of CEA in LSC is aimed at deaf students, teachers, parents, school principals, and other actors responsible for the educational provision for this student population. The idea is to develop the skills of deaf students through a high-quality comprehensive training process (INSOR, 2021).

⁴ A person who shows the LSC in use, models it for deaf and hearing learners. In addition to showing or modeling the LSC, they are also the people who have the implicit knowledge of being and living as deaf and therefore manifest and transmit in their daily communicative interactions the heritage of values of a community. They are part of the educational community and as such constitute relevant educational agents.

During the pandemic, all these CEA resources were made available on the YouTube channel INSOR Educativo Colombia.⁵ A new platform is being designed in 2021 for the same purpose. Content production is complemented month by month with new productions relevant for the entire educational community, which are disseminated through INSOR's social networks. There are currently more than 300 videos, which present both practical and theoretical elements in the areas of mathematics, social sciences, natural sciences, and language (composed of written Spanish as a second language and LSC).

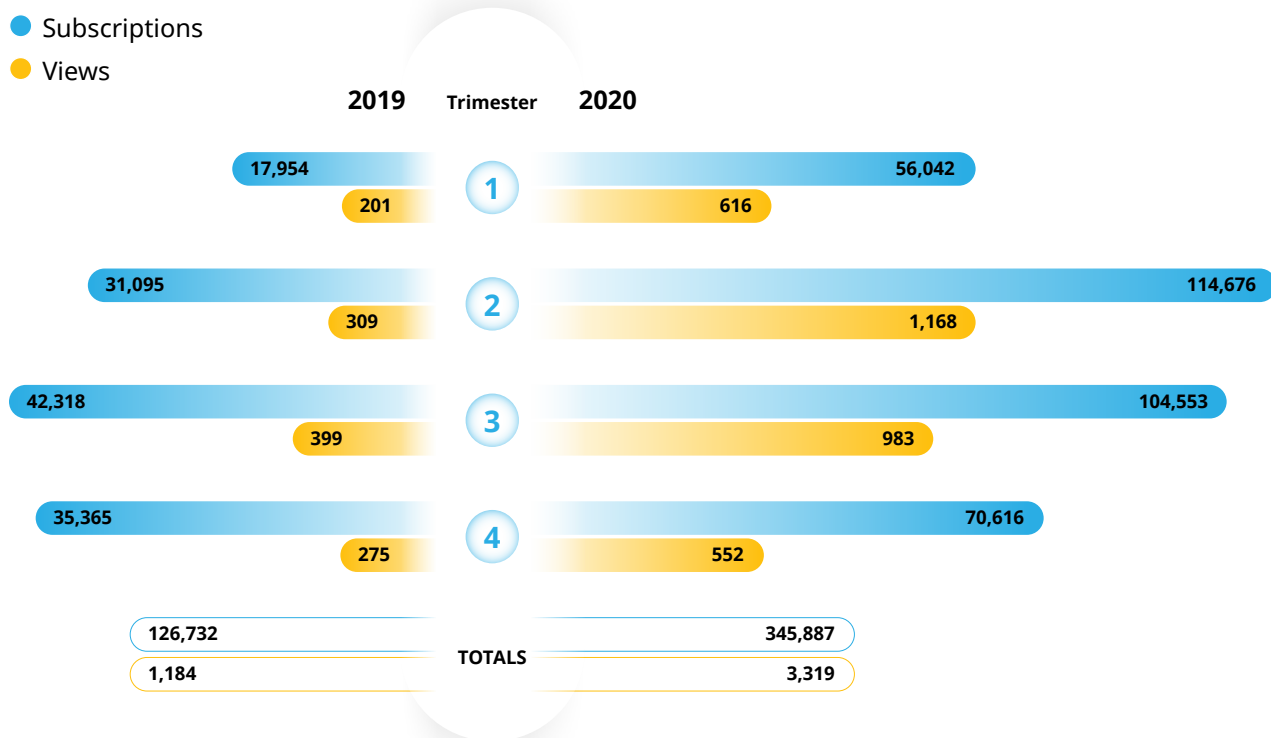
Live classes are held periodically in LSC in the four areas already mentioned, led by deaf and hearing teachers who involve deaf students in the construction of their knowledge. This format allows interaction with the participants, responses to their questions, and the addressing of relevant issues for the learning of deaf students in the four areas mentioned.

It should be noted that all of these educational materials can be used independently by the students or by the teachers as a pedagogical resource for their classes. Teachers can also receive training, guidance, and advice from INSOR specialists through this platform to guarantee a quality teaching-learning process for deaf students from preschool to higher education. This material deals with topics such as the bilingual-bicultural offer, pedagogical instruments, formative evaluation approaches, and preparation for online national standardized tests.

ICTs have made it possible to enhance teacher training in the use of ICTs to teach deaf students. Issues surrounding internet access persist, however, in terms of both coverage and quality, as well as availability of equipment (computers, tablets, smartphones).

Figure 9 shows how the number of users of INSOR educational content doubled in 2020, especially after online classes started. It is evident that INSOR educational content contributed significantly to the education of the deaf population during this pandemic.

Figure 9. The number of users of INSOR educational content



The INSOR Educational Channel was accessed by teachers and students from the following countries: Argentina, Chile, Colombia, Ecuador, Mexico, Peru, Spain, and the United States. Most of the users accessed the channel through their mobile devices: mobile phone (49.8 per cent), computer (44.7 per cent), tablet

5 <https://www.youtube.com/channel/UCgPgI0FiLs8v18146Suwo-w>

(2.3 per cent), and TV (2.2 per cent). Teachers (44 per cent) are the main users of the channel; students (14 per cent), interpreters (15 per cent), linguistic models (mentors from the deaf community) (13 per cent), and relatives of deaf students (7 per cent) made up the other users.

According to the INSOR team:

'Much was learned from the online experience during the pandemic, and although we do not yet know the impact in terms of dropout, educational lag, and effectiveness of the teaching-learning processes, we know that no interaction in LSC negatively affects the linguistic and cognitive processes of deaf students'. In strong terms, the team describes the 'situation that deaf students experienced in school before the pandemic, especially those integrated with hearing students, where they had to attend class for at least six months without being able to understand absolutely anything in class, waiting for bilingual teachers to be hired, was not so different from what was experienced in this pandemic, which shows that in regard to their access to quality education deaf students had been in a pandemic-like situation for more than 15 years [in regard to their access to education].' (Portilla and Marquez, 2021).

3.3. Ministry of ICT

The MinICT has a special unit responsible for the design and implementation of the different programmes, platforms and strategies in place to guarantee the full use and appropriation of accessible ICTs for people with disabilities. This unit also liaises with industry bodies to ensure that the development of ICTs by industry is accessible for people with disabilities and that they better understand the accessibility needs of people with disabilities, the solutions available, and the policy and regulatory solutions that they can follow to ensure that such solutions are widely available, accessible, and affordable.

Some key strategies and programmes available for the education sector that were particularly useful during the pandemic (Colombia, 2021b, MinICT):

- *Computers for Education* is the national government programme in support of educational innovation through the access, use, and appropriation of technology in public schools all over the country. Likewise, through the environmental sustainability component, the electronic waste is reused in robotics projects for educational purposes. During the pandemic, in partnership with the secretaries of education and the schools, the programme lent many computers and tables to disabled students to help them participate in online classes.
- *Relay Centre*: The role of the Relay Centre is to facilitate communication between deaf and hearing people through the platform www.centroderelavo.gov.co. This project handles two lines of action: call relay, which facilitates communication by telephone or cell phone; and online interpretation, which facilitates face-to-face communication between deaf and hearing people wherever they are based (interviews, meetings, medical and work appointments, among others). During the pandemic, some deaf students have made use of this medium, when the devices they possess allow it. This bidirectional platform works with an application installed on Android/iOS mobile devices, with LSC interpreters.
- *ConVerTic*: This digital inclusion project for people with visual impairments (blindness and low vision) allows using a computer with two types of software: ZoomText and JAWS. Both applications are downloaded for free with prior authorization. All the public schools with disabled students have access to these two applications. The ZoomText software magnifies the computer screen without distorting the image and allows to modify the contrasts to facilitate its use by students with low vision. The JAWS software is a screen reader that allows access to the computer through commands, facilitating any interaction with the computer. JAWS narrates this interaction with its voice. The voice can be adjusted to the needs of each user.
- *Digital Citizenship* expands the use of ICT services through training in ICT skills and abilities that allow citizens to improve their employment opportunities and their quality of life in general. The training offered is made up of 33 courses in 12 thematic areas. All content is fully accessible and can be accessed and used by people with disabilities. This was one way some teachers were able to train; the courses also helped students with disabilities participate in online classes.

- *Culture and education*: Considering that culture is part of the education process of citizens and should be available without barriers through ICT, the MinICT has three programmes that are available for students (and people in general) with disabilities. These are:
 - *Cinema for All and SmarTIC*. Cinema for All is an inclusive entertainment and culture space that allows people with visual, hearing, and/or cognitive disabilities to enjoy accessible cinema functions for free. The accessibility components are: (a) audio description: allows people with visual impairments to listen to the description/narration of the entire story and what appears on the screen through a free mobile application. (Radionovela); (b) special captioning: allows deaf or visually impaired people to read the captions with high contrast colours on the screen, ensuring that they can easily understand the story; and (c) interpretation in sign language: allows deaf people to view all the audio content of the film through a free mobile application in LSC.
 - *Retina-Latina (Ministry of Culture-MEN-MinICT), RTVCPlay*. In partnership with the Ministry of Culture and the Public Media System, RTVC Retina-Latina is a digital platform to watch Latin American cinema with accessibility elements for people with visual and hearing impairments.
 - *Concerts MinICT*: (a) *Concert for Everyone*; and (b) *Music for Reconciliation programme of the National Batuta Foundation* in coordination with the MinICT and the Ministry of Culture offer accessible virtual concerts bringing various musicians together through special apps.⁶

3.4. Civil society

3.4.1. Organizations of persons with disabilities

Colombian Association of Down Syndrome (Asdown)

Asdown is a non-profit family organization that has been working to support families and support the education sector in the past 15 years. It is one among several national and international organizations that contribute to the construction of public policy in the country (Asdown, 2021).

For Mónica Alexandra Cortés Avilés, the director of Asdown, the arrival of the pandemic showed the fragility of the educational system in terms of education provision for learners with disabilities:

'It became clear that there was not much clarity on how to make the supports and adjustments that are required for learners with disabilities ... In the first months of the pandemic, families were disoriented, without answers ... and without knowing if their children could continue their education. The position of some schools was to leave them out, arguing that given their inexperience with online learning, it would be too much of an effort to attempt to teach all learners, and to that extent they could not also take care of learners with disabilities ...

The Ministry of Education generated some actions quickly, such as the production of material for internet, radio, and television programmes. However, disseminating this material was very difficult, particularly in rural areas or in municipalities where the mother has to go to a certain place to connect and search for a signal, enter the Colombia Aprende page, and search for and download the content, when sometimes they don't even know how to enter a web page. ... The radio and TV programmes were more accessible' (Cortés, 2021).

They continued:

'I feel that information does not always circulate. In general, dissemination and communication have been very difficult. Many policies are formulated, many strategies are elaborated, many documents are prepared, but then making that information all over the national territory to reach schools and families is complex and has not been managed well'.

⁶ <https://www.youtube.com/watch?v=R2LMw3NiyI0&feature=youtu.be&ab>

'Both families and teachers realized that during the pandemic the challenges to maintain educational continuity was a shared mission. However, according to Asdown 'many responsibilities were delegated to the family. ... Technology for people with disabilities was not ready, and in general many learners with disabilities were left out of the educational system operating online' (Cortés, 2021).

However, it is fair to recognize that in many cases the teachers began a relationship and communication with the families that did not exist before:

'Some families report that the teacher calls them, and it has been very unusual for them to be asked how they were doing or to receive information through WhatsApp. Before the pandemic, it was always very difficult for the family to feel that they can interact with the teachers. Hopefully, it will continue after the pandemic' (Cortés, 2021).

One of the great problems that is occurring in 2021 is the high dropout level among learners with disabilities. According to Asdown, without a doubt, virtual education during the pandemic has made families feel that their daughters/sons 'are stone guests', because the teacher does not plan any activity for them. 'So many mothers/fathers have decided to withdraw them ... We are facing a lot of dropouts, and a huge fear of regression'. Beyond the academic content, the face-to-face school interaction is an opportunity for growth and socialization for people with disabilities, which also allows them to build support networks, and all of this has not been possible during the pandemic.

For learners with intellectual disabilities, the director of Asdown mentions that,

'No socialization is a great loss because it impacts the development of their adaptive skills. Each activity was a victory before, from the moment they got up and got on their way to school. All these efforts fuelled them, the demands of the environment enriched them, demanded mental exercise. Now they are comfortable at home. And I cross my fingers that the mothers do not decide that they are going to stay with them at home to train them. That is not a good idea' (Cortés, 2021).

Guidelines issued by the MEN recommended not allowing children under 5 years of age with disabilities to return to school, due to the schools' inability to handle biosafety protocols and protect them from catching COVID-19. Many principals took advantage of these directives to prevent learners with disabilities from returning.

As far as Asdown is concerned,

'It is precisely the return to school that should be guaranteed first for those who were excluded, those who never had access because they did not have a computer, those who did not have internet, such as many children with disabilities. They should be the first to return, because they can benefit from having fewer children in the school environment, they can receive more direct attention, with the aim of favouring those who were left further behind during this pandemic' (Cortés, 2021).

The great challenge expressed by the director of Asdown with respect to the post-pandemic future is to be able to have the technological tools and resources necessary to carry out communication campaigns and implement strategies to reinforce the idea that learners with disabilities should not be left behind and should be able to return to school.

National Federation of the Deaf of Colombia (FENASCOL)

The federation's mission is to help improve the quality of life of deaf people by defending their rights, seeking to encourage more spaces to have accessible instruments for deaf people, and facilitating communication between deaf and hearing people. Its work focuses on facilitating the full exercise of citizenship for deaf people, strategically guaranteeing inclusion and compliance with both national and international regulations and policies. It groups 36 organizations of deaf people throughout the country (Fenascol, 2021).

FENASCOL has three major programmes: (a) LSC teaching/learning programme as a communication and cultural mediation strategy; (b) training and interpretation service in LSC; and (c) operating the Relay Centre, originally an idea of FENASCOL, subsequently adopted by the national government through the MinICT.

This service allows two-way communication between deaf and hearing people through a technological platform that has online LSC interpreters. Since 2001, using a technology that is made available free of charge, Relay Centre applications are available for mobile devices (Fenascol,2021).

The interview with José Antonio Leal Carvajal, the technical director of FENASCOL, made it clear that the main work of this organization is public policy advocacy. FENASCOL seeks to build consensus for the recognition of LSC as a language. 'The deaf population is a minority linguistic group and as such must be recognized'.

FENASCOL recommends the involvement of parents and caregivers, taking into account that:

'information and training for parents is decisive and essential for them to make the right decisions about their children, not only with a medical notion of deafness but also with a linguistic and cultural vision of deafness and disability, not linked to the deaf person, but to the barriers of the environment where reasonable adjustments and universal designs must be applied. It is necessary to change discourses and paradigms, and to eliminate preconceptions and prejudices. Qualifiers such as "disabled", "deaf and dumb", "limited", "handicapped", "ineducable", etc., are not adequate or acceptable' (Leal, 2021).

Another concern of the federation is the lack of resources – and, on occasion, of political will - to make it possible that 'from early childhood deaf children experience a process and a context that provide them with a bi-cultural bilingual education' (Leal, 2021).

3.4.2. Civil society organizations providing services to people with disabilities

Saldarriaga Concha Foundation (FSC): An exceptional experience

The Saldarriaga Concha Foundation was created in 1973 as a private family initiative. Its main objective has always been to 'Transform Colombia into a solidary society that recognizes and respects learners with disabilities and elders' (Fundación Saldarriaga Concha, 2021a). In 2019 the FSC began to function as a

'social innovation laboratory, which designs programmes and projects for elders and learners with disabilities based on the evidence provided by research, conducting pilot tests with rigorous monitoring, follow-up, and evaluation to identify what is being done right, improve it, and offer it for escalation for a greater impact on inclusion' (Aristizabal, 2021).

The four lines of work in which solutions for the elderly and people with disability are designed, tested, and shared focus on: (a) education and training; (b) health and well-being; (c) income generation (employment and entrepreneurship); and (d) inclusive services to improve accessibility in entities of the cultural sector and libraries (Fundación Saldarriaga Concha, 2021a).

Education and training projects

The FSC has a great impact on the definition and implementation of public policy, through the participation in strategic spaces of the NSD. In agreement with the MEN, progress has been made in the implementation of Decree 1421 on inclusive education in territorial entities. Through alliances with MEN and the MinICT, the FSC has worked directly in the territories, strengthening the use of technology for learners with disabilities and the development of accessible content.

Vital Connection Emotions

Emociones Conexión Vital, or Vital Connection Emotions, was created within the framework of the agreement with the MEN (2018–2019), with the objective of building socio-emotional skills and resilience, based on the connection that exists between skills and inclusion as a behaviour and cultural heritage. There is a proven model with transversal components, which allow it to be adapted to different audiences (children, young people, teachers, elderly people) and to different territories.

During the pandemic, this project was developed through virtual and remote modalities with the support of tutors and synchronous virtual meetings, training employees of the Secretariats of Education and Health in 48 territorial entities, and 2,121 teachers in 300 schools.

There are two collections of resources that can be downloaded or accessed digitally (<https://www.saldarriagaconcha.org/emociones-conexion-vital/>). Resources include downloadable guides, videos, infographics, supplemental resources, and other activities. Sign language, closed captioning, and audio description are used, and documents can be read online or downloaded to use with JAWS or Zoom:

- *Emotions for Life Collection*: Focuses on social-emotional training and resilience. Consists of four modules for public employees and six modules for schools.
- *Inclusive Education Collection*: Goes deeper in the issues of inclusion and equity to achieve complete trajectories. It has three modules for public employees and three different modules for schools.

After the experience of the pandemic, the FSC learned that even though virtual access is an important tool, real internet access in Colombia, even in areas with coverage, is not easy, and that it is necessary to return to more simple communication models to ensure messages reach their destinations. Different means were used to enforce the trainings, adapting them to the needs of teachers and schools, regardless of their degree of connectivity. For example, phone calls, mail, and chats were used to follow up with each student. Also, virtual meeting platforms for synchronous meetings and open sessions through social networks for levelling and exchange meetings were used. This remote strategy was complemented with short radio shows, broadcast by 400 community stations throughout the country. The contents of these trainings are now available through the Colombia Aprende Virtual Campus (Moodle) for tutor training and through the Colombia Aprende educational website, as well as in USB content units for self-training.

Teachers for Inclusion

Thanks to permanent contact with teachers and principals of schools in many regions of the country, the FSC identified the need to generate permanent dialogue and provide practical pedagogical tools to make inclusive education a reality in the classroom.

In 2019 a closed Facebook group called Maestros por la Inclusión (Teachers for Inclusion) was created to solve questions, share experiences, and broadcast webinars with experts to talk among teachers about inclusion and equity in education. In January 2020, the group had 2,200 members and at the end of that same year 21,602 people had already joined. During 2020, 18 webinars were broadcast, which were viewed 61,203 times. Some of the webinars focused on addressing strategies during the pandemic:

- Technologies for inclusive education: <https://fb.watch/2a3515YC3D/>
- Strategies and resources for educational support at home for students with disabilities: <https://fb.watch/2a2ZENzWs4/>
- Significant experiences in inclusive education during the pandemic: www.facebook.com/386812558035146/videos/1714451622057385
- Webinar: Technologies for Inclusive Education www.youtube.com/watch?v=UBFjIPQeAjw&t=972s
- Teachers for Inclusion created a resource centre where inclusive education tools are centralized in three aspects: cultures, policies, and practices (Fundación Saldarriaga Concha, 2021b).

Using the Teachers for Inclusion platform, significant experiences were identified through consultations with the community. In 2020, Mi Experiencia Cuenta (My Experience Counts) was launched with the aim to identify the experiences of teachers, managers, professionals, and support teachers who develop inclusive practices during isolation. These are some of the experiences:

- Dora Escalante. Experience 2019. ArTics, strategy for meaningful learning: <https://www.youtube.com/watch?v=BpkOXZ9AAJM>
- Jorge Arteaga. Experience 2020. Typhology as a fundamental tool to serve learners with visual impairment: www.youtube.com/watch?v=MgY6yqqEfhM

Contents to promote inclusive education

Inclusive education (Colombia Aprende, 2021) is a collection of six documents and nine videos that address relevant issues for the educational support of populations with disabilities. These contents are aimed at employees of the secretariats of education, schools, families, caregivers, and all actors within the educational system.

ICT competences – Appropriation of ICTs in education

In the educational field, through the use and appropriation of ICTs, there have been transformations in models, educational practices, evaluation processes, management, and communication systems, and the creation of educational materials and resources. For the FSC, ICTs are a fundamental tool that allow the elimination of barriers and strengthen processes towards inclusion and equality.

With these purposes, the FSC built an initial proposal⁷ that consists of an ICT toolbox for free- access to inclusive education, to be collectively and permanently improved (Fundación Saldarriaga Concha, 2021c).

ICT talent

Within the framework of a comprehensive strategy developed by MinICT to strengthen the ICT talent that the industry requires (<https://mintic.gov.co/portal/vivedigital/612/w3-article-19487.html>), the FSC is developing a pilot exercise to search for talent within companies in the ICT sector. It requires training (220 hours) in web development related to education for jobs in technology; it is provided thanks to alliances between the government and the private sector.

Partnership with MinICT in issues of culture and practices

Cinema for All: Films with subtitles and sign language, to make them accessible.

Narractic: Development of oral and communication skills.

SmarTIC: The FSC provides tools to make short films and support with financial resources.

The FSC has a clear impact at the national level, but it also accompanies schools in regions that are evolving towards inclusion and innovation. They have the expertise in both the national and policy decisions and at the school level, where the teaching and learning process for learners with disabilities happens. One of the final thoughts of Lina María Aristizabal Durán, the education and training leader of FSC, during the interview was:

‘During the pandemic, weak access to connectivity and ICTs was evidenced. The teaching and learning process was de-configured while the role of the support teacher was blurred. The idea of not being trained to work with learners with disabilities still persists in teachers, which is reinforced by the limitations they have to develop accessible content or make reasonable adjustments; it is essential that all teachers know how to create accessible content. There is a need that all learners with disabilities have access to internet, to a platform and ICT applications ... still there is a lot to do’ (Aristizabal, 2021).

⁷ Proposal in conjunction with the teacher Sindy Bernal, professor at Colegio Enrique Olaya Herrera and research coordinator of the virtual education division of Universidad El Bosque.

4. Formal education: school strategies, programmes, and instruments used during the pandemic

4.1. How do public schools implement policies directed at students with disabilities?

In order to illustrate how public schools implement the policy of attention to students with disabilities (Policy of Educational Inclusion), three schools have been selected from three different municipalities. The municipalities are of different sizes, and they are located in different regions of the country with different levels of development: Tabio, a very small and rural town; Ibagué, a mid-size town with some industrial development and some rural areas close by; and Bogotá, the capital city and largest urban zone in the country, with close to 10 million people.

It is important to acknowledge that, given the autonomy of schools according to the decentralized structure of the Colombian educational system, there are many initiatives of a varied nature. Another aspect to highlight is the relatively high level of support, both financial and technical, that schools receive from the NGO and business sector in their municipalities, which is a key factor to achieving good and sustainable results.

4.1.1. The Jose de San Martín Commercial Technical School in Tabio

Tabio is a small municipality close to Bogotá that belongs to the Cundinamarca department and has 29,000 inhabitants and a school-age population (5–16 years) of 4,137. Tabio has 10 public schools that cover the levels of preschool, primary, and secondary (lower and upper secondary). Some of them also serve the adult population that hope to finish their primary or secondary school at night or on weekends. The net and gross enrolment rates are close to the national average and the dropout rate is a little lower than the national level. Table 1 shows the enrolment rates and the main internal efficiency indicators.

Table 1. Education indicators

	Population from 5 to 16 years	Net enrolment	Gross enrolment	Dropout rate	Repetition rate
Total	4,137	96.5%	102.2%	1.11%	3.4%
Preschool	304	70.7%	92.3%	0.57%	0.6%
Primary	1,692	94.9%	105.0%	0.68%	2.2%
Lower secondary	1,398	92.1%	112.8%	1.88%	6.0%
Upper secondary	743	58.0%	80.5%	0.51%	1.0%

Source: MEN, 2020. (Colombia, 2021a)

Table 2. Student population by sector

School	Area	Enrolment	Number of campuses (sedes) ⁸
I.E.R.D. Diego Gómez de Mena	Rural	625	6
Institución Educativa Departamental	Urban	1,642	4
Instituto Técnico Comercial José de San Martín	Rural	884	4

The Jose de San Martín Commercial Technical School is one of 10 public schools and serves a total of 2,526 students (Table 2), of which 115 are students with a disability. This school has eight campuses, of which four are in the rural area of Tabio. The school has been identified as an inclusive school not only at the local but also the national level. Since 2010, the 'special education classroom' (dedicated to classes with only students with disabilities) has been abolished and the process of educational integration and inclusion of the different disabled students – no matter what kind of disability they have – has begun. The students with disabilities have been integrated into the regular classrooms according to the grade they should be in.

'In 2021, data provided by the school principal and his technical team showed that 2,526 students are enrolled, of which 115 are in a situation of disability, all distributed in grades from 0 to 11 (very few are in the adult education programme' (Técnico Comercial José De San Martín, 2021a).⁹

One of the objectives of the school is to guarantee the social inclusion of all students in equal conditions, committed to educational quality by providing children and young people in the municipality of Tabio (Cundinamarca) with the necessary learning experience to contribute to building their life project. The school's proposal is based on the multidimensional thinking approach that comprises three areas: creative thinking; critical thinking; and logical-mathematical-scientific thinking. They are taught on the basis of a pedagogical model that incorporates project work with a humanistic approach (Técnico Comercial José De San Martín, 2021b).

The distribution by type of disability is shown in the following table. One aspect that is important to highlight is that 40 per cent of students with disabilities are concentrated in one of the rural campuses of the institution.

Table 3. Student percentage by type of disability

Type of disability	Percentage	Examples
Intellectual	63%	Down syndrome, cerebral palsy
Physical	14%	Paraplegia, limb mutilation
Psychosocial	19%	Depression, bipolarity
Hearing	3%	Deafness, hearing impairment
Visual	1%	Blindness, low vision
Multiple	1%	Combination of two or three of the above disabilities

Source: Técnico Comercial José De San Martín (2021c).

Some of the aspects that determined the success of the inclusion process mentioned during the interview have been: (a) the training and technical support of teachers in order to uproot the culture of exclusion, to educate for heterogeneity and to generate collaborative learning processes; (b) the definition of an individualized support plan for each student with disabilities (health and educational aspects); (c) the support of municipal health and inclusion secretaries; (d) design and implementation of a PIAR; (e) specific agreements among teachers, parents/care providers, students, counsellors, and managers at the school; and finally (f) a structured plan to monitor the student at school and at home with frequent communication and visits (Técnico Comercial José De San Martín, 2021a).

⁸ In Colombia one school can have more than one building in different parts of the municipality even in rural areas. In general, they are separated by primary and secondary (lower and upper).

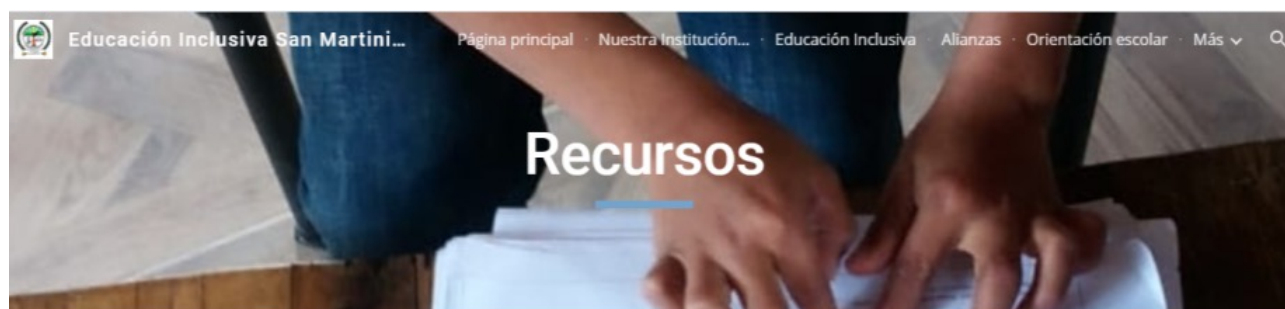
⁹ Interview conducted with the school principal and three teachers on 24 February 2021.

The following video shows in a very didactic way how the school presents the concept of difference to teach students, parents, teachers, and community that the school and its actors must adapt to the needs of students with disability rather than forcing them to fit into a uniform mould: https://m.youtube.com/watch?v=DBjka_zQBdQs.

What specifically happened during the pandemic?

After the lockdown started, schools took the following measures (Técnico Comercial José De San Martín, 2021a):

- Locate students with disabilities and continuously maintain contact with them. The school ran a survey to establish what the students needed.
- Provide tablets and internet access (through SIM cards with enough data preloaded to allow students to access online classes).
- In the case of the lowest-income families, teaching and learning was continued by telephone, WhatsApp with donated SIM cards, and printed work guides mailed to the student's home.
- Acquire Google Suite and provide devices to students with disabilities with the applications pre-installed, including also in some cases JAWS and Zoom with licences granted by the ConVerTic programme of the MinICT.
- Train parents to help operate the devices, taking time and effort from teachers.
- Adapt the curriculum and pedagogy, combining various digital resources, those provided by the Ministry of Education and the MinICT, which included the repositories of digital resources, National Radio (RTVC) and educational TV (RTV Play; Profe en Casa).
- Base work on projects, making it more stimulating for the students to work at home and present the results of their work at the end of the school term.
- Teachers' production of accessible educational resources such as audio, asynchronous videos, and in the case of students with intellectual disabilities special Google Classroom sessions. Pedagogical resources such as Braille Reading: Let's Play with the Numbers feature activities to strengthen attention, memory, and concentration.
- Partner with the private sector and universities, key for the school to maintain the provision of quality education for all students, but specifically for students with disabilities. Partnerships included: Alberto Merani Foundation; Progresia Foundation; Saldarriaga Concha Foundation; University of the Sabana: Alqueria-Cavelier Foundation.



En esta sección puede encontrar algunos recursos pedagógicos, didácticos que puede utilizar en sus clases.



En el marco del Proyecto de Cooperación Internacional: **Todo es Posible: Educación para la inclusión**, liderado por la **Fundación Alqueria Cavelier** con el apoyo de USAID - OIM, nos permitimos compartirle el link de acceso al **Micrositio Cre@r** para uso institucional.

Source: <https://sites.google.com/josedesanmartintabio.edu.co/jose-de-san-martin-inclusivo/recursos?authuser=0>

Box 2. Teachers' perception

Teachers see that while the pandemic negatively impacted students with disabilities in terms of peer relations, social skills, and their learning and achievement of basic competences (language, mathematics, sciences), many children with disabilities will not access complementary services, such as food and medical check-ups, or referral mechanisms for abuse and neglect.

Also, teachers' perceptions are that the pandemic has had a positive impact in general terms for the entire student population of this school:

'This situation has had many good things for the disabled students. For example: teachers are more motivated and produce more innovation in terms of pedagogical practices; the bonds between families and teachers were strengthened; the director of the school was more adept at obtaining resources; and partnerships with the municipality and NGOs have increased. One thing that we have found during this time is that parents that were "digitally illiterate" started using ICT instruments and platforms and, more importantly, got more involved in the educational experience of their disabled children.' Yuly Tatiana Martinez and Paola Andre Arguelles (Teacher's interview April 7, 2021).

In relation to parents/caregivers and students with disabilities, the interview¹⁰ with one student with a visual impairment and her family showed the importance of the family and the different challenges they face.

Karen is a 10-year-old girl attending grade 4 in primary school. Karol was a premature baby, born at seven months old, and suffered a retinal detachment that led to total vision loss. Her maternal grandmother, Mrs Alcira, has been her caregiver since she was three months old. Karol's best friend is Juliana, her cousin.

One of the main challenges the pandemic has brought is the lack of socialization for students in general, and for learners with disabilities in particular. Karol enjoys attending school and playing with her classmates. She misses her teachers and all the classes that she was taking before the pandemic: 'I miss my school family so much. I feel stressed because I can't go out to "see" my sister [her cousin] Juliana. I also miss my piano classes at the house of culture'. This is a place for extracurricular activities in the municipality of Tabio. She states firmly and clearly that she was learning many things at school, such as statistics, science, arts, and others, but added: 'I like social science best'.

She receives food rations provided by the municipality at home. She is now attending her classes online on Zoom. The school provided her with a computer with some programs such as JAWS and Mekanta using ConVerTic from the MinICT. 'I am studying science, math, Spanish, English and geometry', but the online classes are boring: 'They all shout at the same time ... they don't listen to the teacher ... I got very tired'. She continued: 'I also do my piano lessons through Zoom ... I like the face-to-face ones better'. Tatiana, a support teacher, specifies that Karol is very engaged and 'she enjoys talking and speaks freely, and in this way, she participates actively in her classes'.

New demands on the role of mothers/caregivers are the other challenge the pandemic has caused, with an adverse impact on the education process of learners with disabilities. Ms Alcira, Karen's grandmother, is very involved in her education but during the pandemic she has found herself in a difficult situation. Mrs Alcira is very creative and never gives up: 'I don't know how to handle the computer, and when teachers send assignments through Google Classroom, it is difficult for me to send Karol's assignments back. This is why I do them in the notebook and when she enters her virtual class, I show the tasks to the teacher in the notebook. ... She participates a lot in class. ... Since she cannot write she likes to participate orally.

¹⁰ The interview took place on 7 April on Zoom.

'I made this Braille tablet for her and she is learning the alphabet with it. She has already learned it. ... By knowing the vowels, the alphabet, she will learn to read easier'.

https://drive.google.com/file/d/1gMf8Fz0qCBJW_KNrdVdG-OrkSuDJ-F-m/view?usp=sharing

Karen: 'I like to read and talk a lot ... When I grow up I want to be a news anchor ... it's called communication', said Karen during the interview.

https://drive.google.com/file/d/1oehz0fiNM3Xnfm0ZpSHCvWKEe34sX_VE/view?usp=sharing

Tatiana recognized the support that Karen's grandmother provides for her education process. 'Mrs Alcira is an expert in adapting the material for Karol. She invents the material and organizes it to work with Karol. She has been a very important help for the whole process with Karol'



Karen, a learner with visual impairment, returns to school in the alternation scheme. Here she is using the Mekanta program (Tabio, Cundinamarca, Colombia).

Photo: Yuly Tatiana Martinez, Teacher

At school Karen was learning Braille. Tatiana mentioned that 'she already knows the Braille code. The learning process for both reading and writing in Braille has been very slow and when the online classes started, the Braille learning process was even more difficult. Considering that Karen is very intelligent and has an very good memory – and that her grandmother has also been very supportive – she has adapted to the situation well. So, it will be easy to resume the Braille learning process.'

Karen was able to go back to class, as the school is putting in place strategies in terms of biosecurity and make up for her learning loss during the confinement.

The teachers recognize that technology has helped, and it will help even more post-pandemic. They are now more familiar with many programs and applications for learners with disabilities: 'ICT will surely continue to help us at school to improve the quality of education for all students and especially learners with disabilities'.

4.1.2. República de Panamá School in Bogotá

Bogotá is the largest city and is the capital of the country. It has 7,181,469 inhabitants and a school-age population (5–16 years) of 1,119,723. It has 394 public schools that cover the levels of preschool, primary, and secondary (lower and upper secondary), and some of them serve the adult population who want to finish primary or secondary education at nights or on weekends. The net and gross enrolment rates are 96.3 per cent and 104.9 per cent, both higher than the national level. Dropout rate is 1.6 per cent and is much lower than the national level (*Table 4*).

Table 4. Education indicators

	Population from 5 to 16 years	Net enrolment	Gross enrolment	Dropout rate	Repetition rate
Total	1,119,723	96.3%	104.9%	1.6%	2,6%
Preschool	86,232	69.1%	88.1%	2.1%	0,0%
Primary	459,026	96.2%	108.9%	1.4%	2,3%
Lower secondary	376,547	87.5%	110.9%	1.8%	3,9%
Upper secondary	197,918	55.5%	96.2%	1.4%	1,4%

Source: MEN, 2020. (Colombia, 2021a MEN Datos Abiertos)

The República de Panamá School is a recognized inclusive educational community, focused on ensuring the well-being of its students.

It is a specialized public school for children and teenagers (NNA, for 'niñas, niños y adolescentes') with hearing loss, and offers preschool (pre-kindergarten and kindergarten) through grade 11. It reports an enrolment of 915 NNA in the SIMAT, who study in a single-session system across three locations.

Its programme for the inclusion of deaf people in the regular classroom with the use of an interpreter, which began in 1996, was pioneering, being the first school in the district of Bogotá to offer this form of integration. The proposal was laid out through different strategies:

- Preschool and elementary school students are in a separate classroom and together with their parents, relatives, and/or guardians, they receive training in sign language.
- During secondary school, deaf students are integrated in the classrooms with hearing students, with permanent sign language interpreters.
- The course LSC as a Second Language was established for all students in every grade.

The Parents' Project of the República de Panamá school aims to (a) improve communication in sign language between parents and deaf students; (b) promote meeting spaces between parents and deaf children, where there are greater and better interactions in sign language; (c) strengthen family ties through the improvement of communication between parents and deaf children; (d) generate a process of socialization and mutual learning; and (e) develop the school's educational project (PEI acronym in Spanish) in a more 'inclusive' way, since the interaction between hearing students and learners with hearing impairment enrich the way PEI is designed and implemented based on their experience. (<http://www.insor.gov.co/bides/experiencia-colegio-republica-de-panama-ied/>)

Achievements from the experience: (a) by integrating the family in spaces of interaction and communication, the school shelters parents and caregivers as subjects of rights and knowledge; (b) communication, as one of the main elements of interaction and dialogue, enables the creation of effective relationships between them; (c) children greatly improve their communication skills in sign language; (d) the school becomes a space for the entire family, allowing parents to participate and contribute to important decisions; (e) students create bonds of affection, solidarity, and collaboration with their community and family; and (f) parents begin to appreciate that sign language is the only effective way to communicate with their children and become interested in learning to sign.

When the pandemic started, the project continued virtually. A blog was designed in which the corresponding classrooms and courses were displayed for preschool, basic primary (basic classrooms 2 and 3) (Colegio República de Panamá, 2021b) and high school (courses 6 to 11 per period) (Colegio República de Panamá, 2021a); guides and work instructions prepared by the teachers by area of work were filed in this repository, which also had thematic activities and content for each student to work from home with the supervision of parents. The guides were accompanied by videos in sign language, and the activities redirected to other videos which are mostly in sign language with the option of subtitles (Colegio República de Panamá, 2021c).

At the end of each activity, a contact box was set up to write and send questions or concerns in order for the students to clarify their possible doubts. The evidence of the work was delivered to the teachers. In order for all students to understand how to access these guides and the supporting videos, an instructional manual was made accessible to all deaf students in sign language. Furthermore, a team of interpreters was available when needed to assist the families and students through WhatsApp.

Additionally, Colegio República de Panamá is registered in the academic network through the educational website of the District Secretary of Education (Colegio República de Panama, 2021d). Within this site, the Colegio República de Panamá was able to create its own site as a space for the school to communicate and interact with its community. It has news, events, and educational content with an educational and/or communicative purpose. The service is free and available for all users, who can access, use, and/or interact with every service available from the academic network.

The school also receives the technical support from INSOR and uses resources provided by them, which are developed in LSC.

An example of an educational video in LSC: https://youtu.be/sIq_uZPvyxA.

In order to obtain the perspective of learners with disabilities, an interview¹¹ with a group of four students, their teacher, and their mentor (linguistic model) took place, and showed the importance of ICTs for young people, the psychosocial impact of the pandemic on their lives, and the main challenges they have faced during the pandemic.¹² Four topics were covered during the interview: (a) experiences and feelings during the pandemic; (b) importance and use of ICTs; (c) teaching LSC – the comparative experience of the deaf and hearing classmates; and (d) preparing the transition to tertiary education.

In relation to their experiences and feelings, the isolation and lack of communication with their families were the most difficult challenge they have faced. All of them are children from hearing parents who do not speak LSD. The school is the only space where they can communicate and create a relationship with other people, their teachers, and their classmates. Their feelings were 'uncertainty, concern, misinformation and decontextualization, especially during the first months of the pandemic' (Piraban, 2021).

According to Duvan, 'the issue of communication with the family has been the most difficult thing during the pandemic and usually a lot of information comes from the school, so we also had no information about COVID-19. It was all out of context' (Beltrán, 2021).

For the teachers and the principal, and in particular the school's inclusion team, these times have been very challenging. 'This has been an unprecedented experience, designing new strategies, mechanisms, learning processes that are best suited to the students' characteristics and needs. We need to have their trust and help them regain confidence in themselves, reduce anxiety and resume the educational process after certain initial delays'. These feelings were expressed by Patricia Prieto, the teacher, during the interview (Prieto, 2021).

When the topic of the importance and use of ICTs was discussed, the students were very enthusiastic, but they also expressed concern about the difficulties they have had in relation to the quality of connectivity, the availability of equipment, and the use of different programs:

'We are familiar with the use of computers, cellular phones, and some programs and during this time we have used them increasingly ... but have faced difficulties when the internet goes down or programmes do not work. ... The school provides us with tablets and other technological supports that help us to learn. A very useful platform has been the blog we have at school' (Piraban, 2021).

Students recognize the importance of the school experience where all students at the school are learning LSC. According to Yubely, 'The process was very slow and now during the pandemic it got worse, but it is very important'. For Duvan, 'It is a way of increasing the communication and integrating deaf and hearing students.

11 The interview took place on April 16 on Google Meet. The students were Yubeli Beltran Guzmán, Alejandro Siva, Duvan Beltran, and Laura Alejandra Piraban. Linguistic model/pedagogical mediator: Diego Corredor. Teacher: Patricia Prieto. LSC interpreters: Mayerly Rondón and Fabian Nuñez.

12 Idem.

It is my language – I should be able to teach them, and they should be able to teach me Spanish or English, and vice versa' (Beltran, 2021).

The school has developed an adequate strategy to guarantee the transition from upper secondary education to tertiary education. According to Patricia Prieto, the teacher, and Pablo Robayo, the principal, three things have been important. First, the use of LSC for the grade 11 national exam that determines admission into universities (Saber 11 in Spanish). INSOR has helped the government to adapt the test for deaf students. They also trained the deaf students to prepare for this kind of test, using different simulations and programs. ICT has been key in this process.

Second, the experience of developing technical training programmes (computer repair and tourism) with the National Vocational Training Agency (SENA, acronym in Spanish) has opened students' interest to continue higher education to get relevant training for the labour market. Third, the school gives them motivation and orientation to move forward in their training and life project. According to the principal, 'We have been able to push, for example, SENA to have interpreters and the Bogotá tourism authorities to include our students in their activities and to incorporate LSC management to enable the training of the deaf community' (Robayo, 2021).

Alejandro: 'To study tourism is a great opportunity but I would like to also receive training in business development, supporting deaf people in business development, to improve those processes necessary for us to develop professionally and using technology. I would like to be a systems engineer. I really like everything related to virtual reality' (Silva, 2021).

4.2. Non-formal education: Narratic – reporting with another vision

This programme, created in 2016 by the MinICT in association with the Saldarriaga Concha Foundation, is aimed at people with cognitive and psychosocial disabilities to develop basic journalism and communication skills to learn to create digital content, to use tools such as cameras and microphones, and to use social networks and digital media in order to turn them into citizen reporters and generators of digital content.

The goal of Narratic is for young people with mild cognitive or psychosocial disabilities to enter different digital spaces as YouTubers, tweeters, announcers, and news presenters to tell the story of the country from other perspectives. This was named "ICTs, increasingly close to Colombians with disabilities", 2021 ("*Las TIC, cada vez más cerca de los colombianos en condición de discapacidad*").

MinICT consolidates the Narratic project as an initiative for the appropriation of communication technologies and tools that facilitates the integration of young people with disabilities into education and employment. Narratic is technology and communication at the service of inclusion.

The Narratic experience began in Bogotá and was later spread to other cities in Colombia. In Bogotá, 238 young storytellers from 10 localities have been trained; 50 of them, in alliance with the Los Libertadores University Foundation, have been trained in television, media analysis, and radio. In Villavicencio, under the premise that 'disability is in the mind', various public and private schools joined Narratic and 'many young people have discovered their communicative potential, showing their families and friends the capacities waiting to be discovered and that are now an outpour of expression' (Radiomacondo, 2021).

To date, young people trained in this programme have participated in events such as Smart Films, an international film festival made with cell phones, and in the RCN Channel's *Defender of the Viewer* programme. One of the most positive aspects of the work processes at Narratic, has been the creation of quality editorial content, which has the necessary standards to be published across press, radio, television, and digital platforms.

As part of the final stage of the training processes, Narratic made available a virtual exhibition with content created by the students, so that families and the educational community can get closer to the experience and can get to know the results first-hand. The final works, which make up a huge gallery of content, demonstrate the capacities of this population and the results of exercising their right to access information. The abundant evidence registered during the systematization process, with narrative, written, photographic,

audiovisual, radio, and cartoon products, showed an optimal performance of the talents discovered by the narrators: young students with intellectual and/or psychosocial disabilities.

During the pandemic, the programme continued with virtual training, providing participants with a great number of technological tools so that they could fulfil their production proposals.

As examples, these are some productions and testimonies of the participants that were part of the Narratic project:

- Ricardo J. Gómez P. Labour Inclusion Down Syndrome 2018: <https://youtu.be/NdaQ6CFyKz8>
- #Narratic is the opportunity for many things: <https://youtu.be/DX5wDQyhZw8>
- The Narratic newspaper: <https://narraticdigitalnews.wordpress.com/>
- My School is my home, pedagogical experience based on radio communication: www.facebook.com/Narratic2020/videos/my-escuela-es-mi-casa-un-paso-adelante-en-proceso-narratic/884638511943078/

5. Findings and analysis of the information

5.1. How do the findings respond to the research question by each category?

Matrix analysis

Categories (According to OECD definitions)	Research questions	Analysis of answers based on information provided by			
		Desk review	National interviews	Experiences interviews	Beneficiaries interviews
Relevance and appropriateness: as 'the extent to which the programme/ policy/project is suited to the priorities and policies of the target group'	How closely aligned is the national policy/ institutional strategy and its interventions and plans, with national and global goals supporting disability-inclusive COVID-19 responses?	From a theoretical point of view, inclusive education policies for learners with disabilities are quite comprehensive, with the exception of policies for specific disabilities such as deaf students, which are partially inadequate. There is a lot of disagreement on the part of that latter community regarding the official approach.			
	How aligned are the national and institutional programme/ project interventions with the outcomes and results those levels expect to achieve?	Overall, both the documents reviewed and the interviews conducted with the stakeholders directly involved in the process – that is, principals, teachers and students – have revealed a large gap between the objectives established in the official policy and the unmet needs when it is implemented. Examples of this gap are: (a) there are frequent budget cuts; (b) the appointment of specialized teachers to serve students with disabilities does not happen at the beginning of the school term or in many cases not at all; (c) the education materials that are produced are not all accessible to learners with disabilities.			
	How closely linked are the specific interventions chosen with the full scope and scale of beneficiaries' need?	According to the interviews, in many cases the principals and teachers have to be innovative in the design of strategies and projects, in obtaining resources and seeking solutions to the problems faced to compensate for inadequate policies and insufficient resources. This has especially been the case during the pandemic.			
	How appropriate is the current national and institutional approach for inclusion of learners with disability in formal or non -formal education?				

Categories (According to OECD definitions)	Research questions	Analysis of answers based on information provided by			
		Desk review	National interviews	Experiences interviews	Beneficiaries interviews
Effectiveness: as a measure of the extent to which a programme attains its objectives	How effective have the national and institutional programmes been in terms of building capacity at national and institutional level for evidence and equity-based planning and budgeting?	One of the difficulties identified by the study is the absence of evaluations based on solid evidence regarding the results achieved. However, some examples can show that some programmes at national, local, and school levels were able to increase learning. School principals were often able to develop institutional capacity in terms of planning, pedagogical strategies, and access to financial and non- financial resources.			
	How effective has the programme/project been and which changes need to happen in terms of mobilizing and engaging families, communities, local government, and other stakeholders to address sociocultural barriers and bottlenecks to an inclusive education for disabled people?	The pandemic helped to mobilize and engage families, communities, and stakeholders, which allowed, especially at the school level, for a faster and more accurate response to guarantee education continuity for students with disabilities. In this regard, it is necessary to point out that there is no homogeneity at the territorial or school level. The results have been very unequal, reflecting the high degree of autonomy that the different levels have, given that Colombia has a decentralized educational system.			
	To what extent has the teaching-learning process been qualified with the mediation of ICTs?	Regarding the use of ICTs during the pandemic, it is clear that their use increased substantially, and that many efforts were deployed at all levels to design and use different platforms and applications to help disabled students have a better learning experience. However, all the interviews showed the basic problems that the students faced: (a) connectivity problems, (b) difficulties to have support at home due to the digital illiteracy of many parents and caregivers; and (c) not all applications had accessible material for students with disabilities.			
Efficiency: as a measure of the outputs compared with the inputs, to identify the least costly use of resources possible required to achieve the expected results	How efficiently have the national and institutional levels used the resources dedicated to the programmes/ projects to deliver high-quality outputs in a timely fashion, and to achieve targeted objectives (i.e., it is expending the least amount of resources to achieve programme/project results)?	The Colombian education system, in its different levels and areas, has the reputation of being highly inefficient. What happened to learners with disabilities during the pandemic is no exception. However, it is necessary to recognize the efforts made at all levels that led to a rapid response to the emergency provoked by the pandemic. Many decisions were made at the national and local levels to generate economies of scale in the provision of pedagogical inputs and technological tools to schools for the benefit of students with disabilities.			
	How successfully have the national and institutional levels coordinated with other key actors to ensure non- duplication of efforts, and a clear delineation of roles of programmes/projects implementation?	National and local institutions and schools made an effort to coordinate, for example with the private sector, foundations, and NGOs, their actions. This was meant to support and enhance what the schools were doing without overloading them with too many tasks and allowing them to focus more efficiently on providing online education more suited to the needs and conditions of learners with disabilities.			

Categories (According to OECD definitions)	Research questions	Analysis of answers based on information provided by			
		Desk review	National interviews	Experiences interviews	Beneficiaries interviews
Impact: is defined as the positive or negative changes produced by a development intervention, directly or indirectly and intended or unintended	How successful have the national/institutional programmes/projects been to date, and are there signs of (early) impact of: a. expanding opportunities for disabled students b. increasing equitable access to quality inclusive education for disabled children and young people c. reducing out-of-school disabled children and young people	The lack of a culture of evaluation is one of the problems that the Colombian education system presents. Many of the programmes and strategies that have been implemented do not have an impact evaluation design that accounts for what works and what does not work in a way that helps policy-makers make better decisions. Although it is too early to have results and measure the impact of the interventions, some civil society organizations and universities have tried to help government agencies to have rigorous evaluations in order to be able to scale up and replicate many of the interventions that both national and local institutions and schools implemented during the pandemic.			
Sustainability: is about measuring whether the benefits of an activity are likely to continue after some time	How successful has the policy/experience been in strengthening the government system/organization structure to scale up and sustain the interventions?	The various interviews carried out have shown that many of the programmes, projects, and interventions that had positive results can be sustainable over time. The various actors are taking measures to ensure that these programmes, projects, and interventions are maintained through financial and non-financial resources to support the teaching-learning process for learners with disabilities. Examples in that respect are the school-family relationships, digital training for parents, and the teaching of LSC through different technological platforms.			

5.2. What are the lessons learned?

At the national level

1. *Implementation of the legal framework.* Having a solid legal framework is a necessary but not sufficient condition. Educational providers must be aware of the dispositions facilitating their work on behalf of learners with disabilities.
2. *Alignment between policy and resources.* Government policies need to translate into actual resources to support teachers and parents of learners with disabilities.
3. *Information and monitoring.* Governments must put in place comprehensive databases and measure disparities affecting people with disabilities.
4. *Political continuity.* The need for continuity in policies is a very important lesson from the Colombia case. This case study illustrates how political decisions often get in the way of sound policies. To effectively support learners with disabilities in the long run, it is important to 'stay the course' and carry on with financial and non-monetary equity promotion policies in a consistent way, independently from political changes.
5. *Need for impact studies.* Generally speaking, there is a clear lack of rigorous impact studies to establish with precision what works and what does not work. The effort that some organizations such as the Saldañaga Concha Foundation are doing in terms of conducting rigorous impact evaluations of their projects will help to provide more solid evidence. This could also help policy-makers to invest appropriately.

6. *Governance model.* To achieve good equity results in the provision of access and quality education for learners with disabilities, it is essential to have a high degree of alignment among the vision of the leadership, the policy goals, the policy instruments, and available resources.
7. *Institutional coordination.* Inter-institutional coordination among the national (MinICT, MinCultura) and regional entities facilitates the development of useful programmes and projects for schools that give added value to inclusive education processes (Narractic, SmarTIC, TalentosTIC, RetinaLatina, etc.).
8. *Sign language.* The management of LSC by society, families/caregivers, and educational communities strengthens the linguistic and cognitive elements in the learning process. The government needs to make more appropriate decisions that provide opportunities for the family with deaf children to start a process from early childhood that allows them a bicultural and bilingual education.
9. *The role of the family.* The recognition of the importance of involving the family in the teaching-to-apprenticeship process makes it essential for the government to invest in a process of training and information for parents so that from early childhood they can communicate and manage the different needs of students with disabilities. This should be a state policy.
10. *Insufficient public investment.* Public resources available for the implementation of policies and programmes for learners with disabilities are insufficient. In addition, budgetary transfers to public higher education institutions are not distributed according to any rational criteria, nor do they reflect the need for equitable distribution of available resources.
11. *Accessibility barriers in services and applications.* Learners with disabilities faced: greater barriers in accessing online learning, limited or no knowledge of existing applications, poor quality of internet connection, lack of availability of computers and tablets, caregivers/parents not at home or overloaded with work at home, lack of provision of complementary services such as medical, food, and abuse/violence prevention. Although there is still no reliable information regarding the dropout levels of this group of students, anecdotal evidence has revealed an increased risk of dropping out of education during the pandemic.
12. *Inclusion policy.* A very narrow concept of what inclusion is, without considering the different types of disability, leads to scenarios of greater exclusion and inequality. This is the case for deaf students who, by being included in regular classes with hearing students and without a good sign language interpreter, find themselves at a disadvantage compared to hearing students.

At the local level

13. *Educational resources.* The design and implementation of communication strategies help, on the one hand, to sensitize and link families, teachers, and students around the inclusive education process, and, on the other hand, to make information about relevant ICTs and the repositories of educational resources and materials available.
14. *Teacher training* influences the construction of inclusive cultures, reduces prejudices and resistance of teachers, and contributes to generating confidence in teachers to develop appropriate teaching-learning processes for students with disabilities and create accessible educational materials.
15. *On-time teacher hiring.* The timely hiring of inclusion teams, support teachers, and linguistic models/interpreters for educational institutions ensures quality inclusive education and helps build supportive educational paths for children with disabilities.
16. *Inclusive technology.* The acquisition and provision of inclusive technologies by schools that favour communication and accessibility, as well as accessible educational software and material, contribute to promoting inclusive educational environments.

At the school level

1. *School culture.* School dynamics that promote the construction or strengthening of inclusive cultures with teachers and students favour inclusive educational processes.



2. *School-government model.* Participatory governance and management that involves the educational community (mothers/fathers, teachers, principals, students) promotes team commitment to inclusion processes, allowing timely and quality responses.
3. *Family role.* Family accompaniment and monitoring by teachers encourages the commitment and assistance of the family/caregiver in support of the learning process of their children.
4. *ICT teacher training.* Teachers who understand ICTs suitable for students with disabilities are in a better position to use, develop, and adapt educational material, as well as design appropriate didactics.
5. *Motivated and trained students.* Learners with disabilities who know of and use accessible ICTs – as well as material designed with accessibility criteria – enjoy an easier learning process and improve their performance.
6. *Partnerships.* Strategic partnerships with entrepreneurs, NGOs, and universities favour the creation, dynamization, and sustainability of inclusive education processes.

6. Conclusion

To conclude this report, it is necessary to highlight that Colombia has made a great effort to guarantee access to inclusive education for students with disabilities. In general, the country responded rapidly to mitigate the effects of the pandemic felt by these groups of students in spite of the differences across regions, gaps between rural and urban areas, and difficulties in terms of infrastructure. The innovations initiated at the school level, with the help of civil society and the authorities at the national and local level, show that there is both social commitment and political will to provide equal opportunities to learners with disabilities.

The key findings of this case study are:

- Colombia already has a very robust legal and institutional framework as well as a national commitment to provide good access, quality, and inclusive education for learners with disabilities. There is a need, however, for a more comprehensive approach and additional resources to overcome the barriers faced by learners with disabilities.
- A long-term vision, better institutional coordination, and continuity in inclusion policies for learners with disabilities at all levels are necessary to bring about a reduction in disparities and the provision of equal opportunities.
- More emphasis must be placed on the early childhood population with disabilities, and comprehensive assistance to both families and the institutions that care for them, including pre-schooling institutions, must be provided. This would lay the foundations for overcoming many of the existing barriers and facilitate the transition to the following educational levels.
- The education system must put as much emphasis on success as on access. Learners with disabilities not only need to attend school but must be able to learn and move from one level of education to the next in a successful manner.
- School principals and teachers should take advantage of the innovations in teaching and learning approaches brought about by the pandemic to rethink traditional methods and to make more appropriate use of information and communication technologies.
- Colombia needs to consolidate the strategy of involving families in student learning processes, which was generated during the pandemic due to more fluid communication between the school and the family. This goes beyond the scope and responsibility of the education sector and involves many other areas. Training and information programmes for families, using ICTs, and guaranteeing the minimum conditions of connectivity and equipment would have a positive impact on the quality of learning and well-being of learners with disabilities.
- It is important to undertake impact studies to measure which interventions and combinations of interventions are most effective, and ask: what really works and what does not? This should be done at all levels, to identify which interventions could be scaled up or replicated.

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8. Appendix

People interviewed

Position	Institution
Minister of Information Technologies and Communications	Ministry of Information Technologies and Communications
Planning Vice President	
ICT Inclusion Coordinator for People with Disabilities	
Vice Minister of Preschool, Primary and Secondary Education	National Ministry of Education
Technical Deputy Director for the Promotion of Competences	
Advisor	
Advisor	INSOR
Acting Director	
Technical Coordinator	
Pedagogical Coordinator	Saldarriaga Concha Foundation
Education and Training Leader	
Project Coordinator	
Project Coordinator	FENASCOL
Technical Director	
Executive Director	Asdown
School Principal	Instituto Técnico Comercial José De San Martín de Tabio (Cundinamarca)
Teacher	
Support Teacher	
Blind Student	
Karol's Grandmother	
School Principal	School República de Panamá Bogotá
Teacher	
Teacher	
Mentor (Deaf)	
Student (Deaf and with associated disability)	
Student (Deaf)	
Student (Deaf)	
Student (Deaf)	
LSC Interpreter	

About the author

Martha Laverde is an international education expert supporting governments at the national and subnational levels in their education reforms and education for peace programmes. She was at the World Bank as senior education specialist for Latin America and Caribbean countries.

For the last six years she has been an independent consultant with multilateral development banks, bilateral cooperation agencies, think tanks, and non-governmental organizations and is part of the board of the Fundación para la Reconciliación. Martha Laverde holds a master's degree in education from the University of Florida.