

Review

Comparative analysis of infrastructure and resources for inclusive education: Ecuador and international perspectives

Richar Jacobo Posso-Pacheco^{1,*}, Víctor-Gustavo Gómez-Rodríguez², Noemi-Bárbara Delgado-Álvarez², Rosangela Caicedo-Quiroz², Giceya Maqueira-Caraballo², Laura Cristina Barba-Miranda³

¹ National Directorate of Educational Research, Ministry of Education, Quito 170201, Ecuador

² Bolivarian University of Ecuador, Duran 092405, Ecuador

³ National Directorate of Pedagogical Improvement, Ministry of Education, Quito 170201, Ecuador

* Corresponding author: Richar Jacobo Posso-Pacheco, derenue@hotmail.com

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Abstract: Ecuador acknowledges the need to improve infrastructure and resources for educational inclusion, but it faces challenges in effective implementation compared to developed countries that have made advancements in this area. The objective of this research was to map the regulations and practices related to the implementation of inclusive infrastructure and educational resources at the international level, identifying knowledge gaps and opportunities for adaptation in Ecuador. An exploratory theoretical review was conducted following PRISMA-ScR guidelines, using searches in academic databases and official documents. Qualitative and regulatory studies from the United States, Finland, Canada, and Japan were selected, analyzing 16 scientific articles and 11 official documents. The results reveal that Ecuador faces challenges in the implementation of inclusive regulations, particularly in infrastructure and resources, highlighting the need to establish national accessibility standards, invest in assistive technologies, and offer continuous teacher training to enhance educational inclusion. The research uncovered a negative cycle where the lack of effective implementation of inclusive regulations perpetuates inequality and reinforces institutional inertia. For successful reform, the regulatory structure, resource management, and educational culture in Ecuador must be addressed simultaneously.

Keywords: inclusive education; school infrastructure; educational policies; international comparison; educational resources

1. Introduction

Inclusive education is essential to ensure the right to quality education for all students, regardless of their abilities. In the last decade, Ecuador has recognized the need to improve infrastructure and resources in educational institutions to promote inclusive education. This recognition is evidenced in the publication of the “Educational Quality Standards,” which emphasize the importance of having adequate facilities that ensure accessibility and mobility for all students, including those with disabilities. These standards detail the need for physical spaces that facilitate inclusive learning and comprehensive student development, as well as the provision of appropriate educational resources (Ministry of Education, 2012).

Despite this recognition, many educational institutions lack the necessary infrastructure and resources to serve students with different types of disabilities. According to Cuenca-Reyes et al. (2020), such deficiencies hinder the teaching-learning process, limiting academic performance and overall student development. Barrett et al. (2019) found that inappropriate physical environments, characterized by

poorly ventilated classrooms, inadequate lighting, lack of space, damaged furniture, deteriorated recreational areas, and the absence of specific access to educational facilities create inequality and hinder inclusion.

These conditions affect the quality of educational services, reflecting a gap between the reality in Ecuador's educational environment and the laws guaranteeing adequate facilities and educational resources for all students (National Assembly of Ecuador, 2023; Presidency of the Republic of Ecuador, 2023). Duarte et al. (2011) found significant differences between the facilities and services of urban private, urban public, and rural schools, highlighting the need to strengthen investments in educational infrastructure. UNESCO-LLECE. SERCE (2008) also indicates that investments should prioritize the construction and improvement of libraries, science laboratories, computer rooms, and sports areas to create inclusive and equitable learning environments. The lack of these resources limits opportunities for practical learning and the development of scientific and technological skills.

Concerns about the quality of inclusive education in Ecuador are exacerbated by the scarcity of human, technical, and material resources and the failure to meet the standards necessary for inclusive education (Education Profiles, 2024; Posso-Pacheco et al., 2023). This situation becomes critical when compared to educational institutions in developed countries, which strictly comply with regulations on infrastructure and equipment with advanced technologies, specialized educational materials, and trained personnel to facilitate inclusive education (Hossain and Hickey, 2019).

Although the regulations require educational inclusion, many families and civil organizations have pointed out that current conditions in educational institutions do not allow for true inclusion of students with disabilities (UNESCO, 2020). Additionally, adapted educational resources, such as Braille books, specialized educational software, and visual and auditory support equipment, are scarce in Ecuadorian schools (Posso-Pacheco et al., 2021; Rojas-Avilés et al., 2021). This lack of resources limits learning and development opportunities for students with disabilities, perpetuating educational exclusion (Engelbrecht, 2020).

Inclusion regulations in Ecuador lack effective monitoring and evaluation mechanisms to ensure their compliance. Despite progress in implementing inclusive policies, challenges in practice persist, preventing these policies from being formulated, applied, and supervised adequately. This is fundamental to ensuring the full participation of people with disabilities in all aspects of educational life (OHCHR, 2019).

According to TERCE data, rural educational institutions in Ecuador do not have access to basic services compared to their urban counterparts, negatively impacting students' academic performance and perpetuating social and economic inequalities. The Inter-American Development Bank (2017) suggests that resources be distributed equitably to ensure that all schools, regardless of their geographic location, have the necessary facilities. It also recommends the implementation of continuous maintenance programs to ensure that school facilities are kept in optimal conditions.

The challenge of adequately equipping all educational institutions in Ecuador is complex due to various geographic and demographic factors (National Institute of Statistics and Censuses, 2010). This dispersion makes it difficult to build and maintain the necessary infrastructure, as well as to provide educational materials and continuous

teacher training. Current resources are insufficient to meet the needs of students with disabilities, thus not offering an inclusive learning environment (Posso-Pacheco et al., 2024; Samaniego Jiménez et al., 2024).

To address these challenges, it is essential to learn from the strategies and practices implemented in other countries with developed educational systems; countries that have managed to prioritize the construction of accessible and safe educational facilities by establishing sustainable policies that ensure the maintenance and continuous updating of these resources. Mourshed and Baber (2007) indicate that this investment allows teachers to employ varied teaching methods adapted to the different abilities and learning styles of students. Inclusion depends on the physical infrastructure and equitable access to educational resources that promote education for all.

For education in Ecuador to be truly inclusive, it is essential to review its current context and compare it with other countries. Therefore, the objective of this research was to map the regulations and practices related to the implementation of inclusive infrastructure and educational resources at the international level, identifying knowledge gaps and opportunities for adaptation in Ecuador.

2. Materials and methods

To achieve the objective of this scoping review, an exploratory theoretical review was conducted following PRISMA-ScR guidelines (Tricco et al., 2018) to map the regulations and practices implemented in countries with inclusive educational infrastructure, identifying knowledge gaps and areas that require further research. The countries selected for comparison include the United States, Finland, Canada, and Japan, chosen based on their recognized advancements in this area:

- The international recognition in the implementation of inclusive policies by these countries makes them models for studying and adapting best practices. The Individuals with Disabilities Education Act (IDEA) in the United States has established essential rights and services for students with disabilities, positioning the country as a leader in inclusive education (U.S. Department of Health and Human Services and U.S. Department of Education, 2023). Similarly, Finland stands out for its equitable education system and well-implemented inclusive policies, making it a benchmark in student integration (Dinan and Boucher, 2023). Canada has implemented inclusive policies at the provincial and territorial levels, focusing on accessibility and support for students with disabilities, thereby establishing itself as a leader in inclusive educational environments (Era, 2021). Japan has been recognized for its inclusive policies, highlighting its progress and challenges in studies on inclusive education in Asia (Lindqvist and Lamichhane, 2019).
- Advanced infrastructure facilitates the implementation of inclusive policies, ensuring that all students have access to an environment tailored to their needs. In the United States, schools are equipped with accessible infrastructure for students with different types of disabilities, promoting inclusion and equitable learning (National Council on School Facilities, 2018). Similarly, Finland is recognized for the modernity and accessibility of its school infrastructure,

providing an optimal environment for inclusive education and the holistic development of students (Guardeño and Monsalve Lorente, 2023). In Canada, schools have infrastructure that ensures physical and technological accessibility for all students, thereby reinforcing equity in access to educational resources (Polo Garzón and López Valencia, 2020). Japan makes significant investments in its educational system, focusing on the modernization of school facilities to meet international accessibility standards (Martínez Reyes, 2023).

The criteria for study selection were broad, including both qualitative and regulatory publications, in order to provide a comprehensive view of inclusive policies and their implementation in educational infrastructure.

2.1. Data collection

Data collection was conducted through an exploratory search in academic databases and official documents from the selected countries, focusing on capturing a variety of studies that examine inclusive educational infrastructure and its regulation.

2.1.1. Definition of keywords and Boolean operators

Broad keywords were established using Boolean operators “AND”, “OR”, and “NOT” to obtain a comprehensive set of studies. The combinations used were:

- “inclusive education” AND “educational infrastructure” AND “inclusive policies” NOT “higher education”;
- “universal design for learning” AND “educational accessibility” NOT “university”;
- “assistive technologies” AND “inclusive education” NOT “adult education”;
- “school infrastructure” AND “disability policies” NOT “specialized schools”.

2.1.2. Search in Scopus and official platforms

The search was conducted in Scopus and ProQuest, as well as official documents, without limiting the results to open access publications in Social Sciences. The purpose was to gather data on the inclusive policies and practices of the United States, Finland, Canada, Japan, and Ecuador through as many sources as possible.

2.1.3. Selection and extraction of studies

The abstracts and titles of the selected studies were reviewed, prioritizing documents that provided a descriptive and diverse perspective on inclusive educational policies and practices. Key data were extracted from these studies to map trends and gaps in the regulations of the selected countries, avoiding direct comparisons between them. In total, 16 scientific articles and 11 official documents issued by the respective ministries of education were analyzed.

2.2. Evaluation of inclusive school infrastructure policies and practices

The key laws and policies guiding inclusive education and accessible educational infrastructure in the selected countries were described, aiming to provide a mapping of the implemented practices. This analysis was structured as follows:

2.2.1. Identification of regulations and policies

The analysis of the regulations focused on describing the legal frameworks that

support the creation and maintenance of accessible educational facilities, without making critical evaluations of their effectiveness.

2.2.2. Evaluation of implemented practices in school infrastructure

Practices related to inclusive educational infrastructure were explored in each country, describing how accessibility policies are implemented in educational institutions. Case studies and reports were considered, offering a descriptive view of the challenges and successes in the application of these policies. The analysis focused on identifying potential adaptations that could be useful for the Ecuadorian context.

2.2.3. Analysis of available resources for inclusive infrastructure

The management of resources allocated for the creation and maintenance of inclusive school infrastructure was also explored, mapping the relationships between infrastructure and educational equity. Information on resource implementation, associated risks, and compliance with both international and national regulations was identified.

2.3. Comparative analysis of international and Ecuadorian regulations and practices

As displayed in **Table 1**, this analysis mapped the regulations and practices of inclusive infrastructure in the selected countries (United States, Finland, Canada, and Japan) and compared them with the situation in Ecuador. The goal was to identify common patterns, gaps in policy implementation, and opportunities to adapt best practices to the Ecuadorian context.

The analysis focused on four key dimensions:

- 1) **Key Regulations:** A description of the laws and regulations governing inclusive education in each country, detailing the legal framework that establishes the rights and obligations to ensure educational accessibility.
- 2) **Implementation of Inclusive Practices and Infrastructure:** A description of the practices for implementing inclusive education policies and the physical and technological characteristics of school infrastructure. This dimension covers how regulations are translated into concrete actions and how infrastructure is adapted to ensure accessibility.
- 3) **Resources Provided:** An analysis of the economic, technological, and human resources allocated to the creation, maintenance, and sustainability of inclusive infrastructures.
- 4) **Impact on Educational Inclusion:** The impact that regulations, implemented practices, and provided resources have on the educational inclusion of students with disabilities. This dimension explores the success or limitations of policies and resources in terms of measurable outcomes, such as the participation of students with disabilities and accessibility.

Table 1. Mapping by selected countries.

Country	Main Regulations	Implementation of Inclusive Practices and Infrastructure	Provided Resources	Impact on Educational Inclusion
United States	Americans with Disabilities Act (ADA) - 2010 ADA Standards for Accessible Design. (ADA Standards 2010, 2012)	In the United States, the implementation of accessibility standards is rigorously enforced, particularly in new and modified facilities. This process is directly overseen by the Department of Justice, ensuring effective compliance with regulations. Infrastructures must meet a series of detailed standards, including accessible routes, ramps, elevators, adapted restrooms, and braille signage. These measures ensure that individuals with disabilities can access and navigate educational environments and other public facilities freely.	Detailed technical standards for accessible design; compliance requirements for public and commercial facilities; guidance and oversight by the Department of Justice.	This regulation enhances physical access and promotes the creation of inclusive learning environments, where adaptive technologies and multisensory resources are integrated into the school setting, improving the participation and performance of students with disabilities within the educational system.
	Americans with Disabilities Act (ADA) - 2010 ADA Standards for Accessible Design (Khurana, 2022; Prescott et al., 2022; Stefik et al., 2011)	The implementation of Universal Design for Learning (UDL) has enabled the creation of inclusive learning environments that integrate adaptive infrastructure for students with various disabilities. These environments include accessible service lines in cafeterias and multisensory spaces specifically designed for students with visual impairments. Additionally, school infrastructure incorporates physical areas adapted for multisensory learning, facilitating a more inclusive educational experience. Accessible programming environments have also been implemented, allowing students with visual impairments to participate equitably in the educational process.	Resources such as UDL Learning Spaces Kits, programming environments like Sodbeans, and the use of tactile manipulatives to enhance educational inclusion.	The improvement of school infrastructure through accessibility standards and inclusive design has a significantly positive impact on educational participation and equity, allowing all students, including those with disabilities or from vulnerable socioeconomic backgrounds, to access educational opportunities on an equal footing.
Finland	<ul style="list-style-type: none"> Disability Services Act (number 380/1987) Special Care for Persons with Intellectual Disabilities Act (number 519/1977) (Government of Finland, 2020) 	In Finland, individualized assessment and planning are conducted to ensure that people with disabilities receive appropriate services and support. This is accompanied by the active inclusion of people with disabilities in policy development through consultations, ensuring that decisions are made with their needs in mind. Accessible educational infrastructure includes modifications in the construction of new facilities and the renovation of existing ones to meet accessibility requirements. Additionally, specific adaptations are implemented in schools for students with physical and sensory disabilities, promoting greater inclusion and accessibility in the educational environment.	<ul style="list-style-type: none"> Grants and funding for the removal of architectural barriers and the installation of elevators in public and private buildings. Accessible training programs and educational resources 	Finland's regulations and policies have a positive and direct impact on educational inclusion, ensuring that students with disabilities have access to education in an environment that promotes their equality and well-being
	Basic Education Act of 1998 and the 2011 reform introduced a three-tiered support system. Special Education Strategy (2007) aimed to strengthen inclusive and special education. (Honkasilta et al., 2019; Mihajlovic, 2020; Saloviita, 2020)	Special education teachers play key roles as consultants, co-teachers, and specialized educators, supporting both students and general education staff. This model promotes small-group instruction and the integration of students into regular classrooms, fostering an inclusive environment. Schools have progressively improved accessible infrastructure, enabling better access and mobility for students with disabilities, although some segregated facilities still require further adaptations.	Limited resources, including a lack of educational assistants, insufficient time for collaborative planning, and variability in resource allocation depending on the municipality.	Although there have been regulatory advances and efforts to implement inclusion, the real impact is limited by mixed attitudes and a preference for more segregated educational models, which reduces the full effectiveness of inclusion within the Finnish educational system.

Table 1. (Continued).

Country	Main Regulations	Implementation of Inclusive Practices and Infrastructure	Provided Resources	Impact on Educational Inclusion
Canada	Accessible Canada Regulations (SOR/2021-241) (Accessible Canada Regulations, 2021)	Regulations require consultation with people with disabilities to develop and update accessibility plans in educational institutions. Regulated entities must implement policies focused on the elimination of physical barriers, ensuring that educational infrastructures meet accessibility standards. This includes the installation of ramps, elevators, and braille signage, ensuring that school environments are accessible to all students, regardless of their abilities.	Funds and subsidies are provided for the removal of architectural barriers and the installation of assistive technology in schools.	These policies ensure that educational institutions adopt accessibility plans, allowing the integration of students with special needs into conventional settings. This has led to progress in the accessibility of educational infrastructure, the adaptation of resources, and a shift in attitudes among educators and institutional leaders.
	Accessible Canada Act 2019. (Berrigan et al., 2023; Curle, 2015)	Compliance with accessibility standards is ensured, with a focus on universal design and the implementation of policies aimed at removing physical barriers in educational infrastructures. Regulations mandate obligatory consultation with people with disabilities during the planning and updating of infrastructure. As part of these measures, ramps, elevators, braille signage, automatic doors, and accessible restrooms are installed, ensuring that educational spaces are inclusive and accessible to all students.	Funds and subsidies for the elimination of architectural barriers and the installation of assistive technology in schools.	People with disabilities face barriers to completing their education due to limited access to adaptive technology. These deficiencies in the implementation of inclusive programs negatively affect educational equity, reducing opportunities for academic success and full participation in society. Legislative initiatives, while well-intentioned, require more effective implementation at the school level
Japan	Basic Act for Persons with Disabilities (Act No. 84 of May 21, 1970) (Basic Act for Persons with Disabilities, 2011)	The national government and local public entities are responsible for ensuring that children and students with disabilities receive an education in accessible facilities that are adequately equipped to meet their needs. This involves modifying school infrastructure and providing assistive equipment and devices to ensure the full participation of students with disabilities in the educational environment.	The law emphasizes the importance of inclusive education and the creation of an accessible environment for all students.	Despite the promotion of various measures to support the social participation of people with disabilities, social and structural barriers continue to limit their inclusion. Principles are established to prevent discrimination and promote equity in society. However, the effectiveness of their implementation largely depends on the coordination between the central government and local entities. These bodies are responsible for creating an inclusive environment, ensuring accessibility in education and public spaces.
	Basic Act for Persons with Disabilities; Act on Comprehensive Support for Persons with Disabilities (Government of Japan, 2017)	The provision of special education is ensured through resource rooms, specialized classes, and schools for students with disabilities. Additionally, individualized educational support plans are implemented to ensure that the specific needs of students are addressed. The adaptation of educational facilities includes the installation of accessible restrooms, elevators, and other necessary resources to ensure accessibility. Furthermore, accessible textbooks in braille and large print are distributed, facilitating access to educational materials.	Development of assistive technologies and support devices; transportation and accompaniment services to facilitate mobility and access to education.	Structural barriers to inclusion persist. Japan has made efforts to create an accessible environment, but their effectiveness depends on coordination between the central government and local entities. Reforms include the introduction of principles such as the “social model of disability” and the need for “reasonable accommodations.” However, the implementation of these changes relies on increased public awareness and the willingness of both public and private sectors to make the necessary adjustments to improve accessibility in educational settings.

Table 1. (Continued).

Country	Main Regulations	Implementation of Inclusive Practices and Infrastructure	Provided Resources	Impact on Educational Inclusion
Ecuador	Constitution of the Republic of Ecuador (Constituent Assembly, 2008)	In Ecuador, a framework of inclusion and equal opportunity policies has been implemented, with affirmative measures that guarantee access to education for people with disabilities. The Constitution ensures that all educational institutions comply with accessibility standards and provide the necessary conditions for students with disabilities to fully participate in the educational environment.	Provision of technical aids, comprehensive rehabilitation programs, specialized education, elimination of architectural barriers, and access to goods and services.	The Ecuadorian Constitution promotes inclusive education aimed at the physical integration of students with disabilities and their holistic development through supportive policies, ensuring equity in access to and retention within the educational system.
	General Regulations of the Organic Act of Intercultural Education (Presidency of the Republic of Ecuador, 2023)	The implementation of inclusive education policies includes an intercultural approach, education for sustainable development, and curriculum adaptation according to the specific needs of students. The regulations ensure that educational institutions have infrastructure that guarantees quality, inclusivity, and livability, tailored to the particular conditions and requirements of each location.	Provision of educational resources such as school textbooks, didactic materials, technical equipment, school meals, school uniforms, and school transportation, according to the regulations.	The importance of educational inclusion is emphasized through the elimination of barriers, curriculum adaptation, and ensuring accessible infrastructure, which promotes opportunities for all students. However, the implementation of these measures depends on institutional commitment and the adaptation of resources to meet the diverse needs of students in the Ecuadorian education system.
	Organic Law on Disabilities (2012)	The supervision and enforcement of accessibility regulations are the responsibility of the national educational authority, which ensures that all educational institutions follow universal design principles. All educational institutions must have accessible infrastructure that eliminates architectural barriers, thereby ensuring that students with disabilities can fully participate in the school environment.	Physical adaptations in educational spaces, including ramps, elevators, Braille signage, and other necessary accommodations.	The right to inclusive and specialized education, adapted to students' needs, with trained personnel and curricular adaptations, is guaranteed. However, the effective implementation of these measures depends on institutional commitment.
	Constitution of the Republic of Ecuador, General Regulations to the Organic Law of Intercultural Education, Organic Law on Disabilities, Organic Law of Disabilities. (Coka et al., 2023; Corral, 2019; Cortés et al., 2016; Fonseca and Requeiro, 2020; Mantuano et al., 2023; Muñoz et al., 2022; R. J. Posso-Pacheco and Barba-Miranda, 2023; Samaniego Jiménez et al., 2024)	The implementation of inclusive education regulations has been inconsistent and partial, despite the existence of clear laws. The lack of planning and coordination between the Decentralized Autonomous Governments and national agencies has resulted in many institutions failing to meet accessibility requirements. Specifically, educational infrastructure remains inadequate, with a lack of ramps, adapted restrooms, and other essential elements, particularly in rural areas, which limits the mobility and participation of students with disabilities.	The pedagogical and technological resources provided in Ecuadorian schools are insufficient to support students with special educational needs. Despite existing regulations, the availability of adapted materials, assistive technologies, and specialized pedagogical support is limited. This lack of resources is further exacerbated by the inadequate training and professional development of teachers in inclusive education, which limits their ability to implement effective pedagogical strategies that foster the integration of students with disabilities.	Despite regulations promoting accessibility, many schools still lack physical facilities such as ramps, elevators, and adapted access for people with disabilities, limiting their participation in the educational environment. Physical inclusion remains a significant challenge in the education system. The success of educational inclusion largely depends on the preparation and training of teachers. Studies show that, although training programs exist, they are insufficient to ensure that teachers have the pedagogical tools necessary to work with students with disabilities. The lack of adapted materials, such as braille books or assistive technology, prevents students with disabilities from accessing quality education. Policies require greater institutional and financial support to ensure that the necessary resources for inclusion are provided.

3. Results and discussion

3.1. Interpretation of comparative results

The comparative analysis shows that Ecuador faces challenges in the practical implementation of inclusive education regulations, particularly regarding infrastructure and educational resources. The selected countries (United States, Finland, Canada, and Japan) offer valuable lessons that can be adapted to the Ecuadorian context, while also highlighting the barriers Ecuador must overcome to achieve true inclusion. The educational impact in these countries reflects greater equity in access and improved academic outcomes for students with disabilities.

One key finding was the need to establish national standards for physical accessibility and to invest in assistive technologies, as seen in the United States and Canada. These countries have robust regulations and accessible infrastructure models that enable the integration of students with disabilities. In Ecuador, however, the responsibility for implementing regulations lies with decentralized autonomous governments, leading to disparities in policy application and the creation of inclusive infrastructures. This lack of consistency in implementation has negatively impacted educational inclusion, limiting equitable access to quality education.

The main challenge identified in Ecuador is the lack of financial and technical resources to develop and maintain inclusive infrastructure that meets required standards. This is particularly evident in rural areas, where educational institutions lack basic resources to be accessible. Furthermore, the unequal distribution of resources between urban and rural areas exacerbates this issue, hindering equity in access to education. Effective decentralization could improve the situation by enabling equitable distribution and swift implementation of regulations.

The Finnish model stands out for its comprehensive approach, which includes both adapted infrastructure and specialized education programs, along with continuous teacher training. In Ecuador, although policies aimed at inclusion exist, the lack of specialized personnel and teacher training in these areas limits the desired impact on educational inclusion. The creation of comprehensive support programs, coupled with continuous teacher training, would enhance the quality of inclusive education and its impact on academic and social performance.

Japan's experience in the continuous modernization of educational infrastructure and investment in advanced technologies offers a model for Ecuador to follow. Japan has demonstrated that accessibility and personalized teaching are achieved through the upgrading of school facilities and the use of adaptive technologies. However, Ecuador faces limitations in this regard due to its reliance on international aid and external funding for educational projects, which puts the long-term sustainability of these initiatives at risk.

While in countries like Finland and Canada, inclusion is a fundamental value that permeates all educational policies, in Ecuador it is still perceived as a regulatory obligation rather than an essential principle of education. To achieve a positive impact on educational inclusion, a profound shift in the mindset of school administrators and teachers is necessary, accompanied by awareness campaigns for the entire educational community, including students and their families.

3.2. Implications for policies in Ecuador

A clear gap is revealed between the inclusive education regulations and their effective implementation in Ecuador, highlighting the need to reformulate current policies to ensure educational inclusion. A continuous monitoring and evaluation system is required to oversee compliance with accessibility regulations and assess their impact. This system should be aligned with international inclusion standards, as implemented by countries such as the United States and Finland, where robust regulatory frameworks have been key to ensuring the consistent application of inclusive policies.

Moreover, the experiences of countries like Canada and Japan demonstrate that implementing regulations alone is not enough; it is essential to integrate these policies with a cultural approach that promotes inclusion from the earliest educational levels. In Ecuador's case, this means modifying existing infrastructure and transforming educational practices to foster a culture of respect and support for diversity from a young age. Policies should promote Universal Design for Learning (UDL) and inclusion as a fundamental value in the educational process.

An essential component is the creation of continuous teacher training programs that provide educators with the necessary tools to effectively implement inclusive pedagogical practices. This is particularly crucial in contexts where resources are limited, and teachers often lack adequate training. Examples from Finland and Canada highlight that continuous teacher training has a direct impact on improving educational inclusion, as it enables educators to adapt to the needs of their students.

Educational policy in Ecuador must address the inequality in resource distribution between urban and rural educational institutions, which remains a barrier to educational equity. The equitable distribution of educational resources, as achieved in Finland and Canada, should serve as a model for Ecuador. This includes providing accessible infrastructure, access to adapted educational technologies, appropriate pedagogical materials, and specialized personnel.

It is important for the Ecuadorian government to promote effective decentralization, ensuring that decentralized autonomous governments receive the technical and financial support needed to implement inclusive policies at the local level. This interinstitutional cooperation will ensure a positive impact on educational inclusion, reducing regional disparities and ensuring that policies are uniformly applied across the country.

3.3. Recommendations for the adaptation of practices

To achieve a transformation in inclusive education in Ecuador, successful policies and practices observed in countries like the United States, Finland, Canada, and Japan must be adapted to the Ecuadorian context. It is essential for the Ministry of Education to develop a clear and specific regulatory framework with national accessibility standards that encompass both physical infrastructure and associated resources. This framework should include monitoring and evaluation mechanisms to measure the impact on educational inclusion, providing periodic reports on the access, participation, and performance of students with disabilities. This system must align with international standards, ensuring that Ecuador's inclusion policies are

comparable to global best practices.

A substantial investment in adaptive educational technology is necessary, allowing teaching to be personalized for students with disabilities. This modernization should include improvements in physical accessibility (ramps, elevators, adapted restrooms) and the incorporation of inclusive learning spaces. These actions will significantly enhance the impact on educational inclusion by providing an adapted and equitable environment for all students.

The implementation of assistive technologies and the modernization of infrastructure must be accompanied by continuous teacher training programs, equipping educators with the skills to use these tools and adopt inclusive pedagogical practices. It is crucial that teachers receive practical training and ongoing support to address the challenges of educational inclusion in their classrooms. Finland's experience shows that continuous teacher training improves educators' capacity, having a direct impact on educational inclusion by enabling teachers to adapt to the diverse learning needs of students.

Cooperation between the central government and Decentralized Autonomous Governments (DAG) is important to ensure an equitable distribution of resources. It must be ensured that all educational institutions, especially those in rural or hard-to-reach areas, have the necessary resources to implement inclusive practices.

Investments in infrastructure are fundamental to fostering an inclusive culture within educational institutions. This involves promoting inclusion as a core value aligned with regulations and the development of an inclusive culture that values diversity and promotes the active participation of all educational stakeholders, ensuring that all students, regardless of their abilities, have equal opportunities in their educational process.

4. Conclusion

The research enabled a detailed comparison of the inclusion policies and practices implemented in Ecuador versus those of the United States, Finland, Canada, and Japan. This revealed significant differences in the effectiveness of inclusive policies, as well as the relationship between centralized regulations and their decentralized execution. Although Ecuador has a solid legal framework promoting educational inclusion, its implementation has been inconsistent due to a lack of coordination and alignment between the central government, the Ministry of Education (including its decentralized levels), and the autonomous decentralized governments. This lack of coordination represents a barrier to inclusion, particularly due to insufficient resources and the lack of infrastructure adapted to the special educational needs of students.

International practices have demonstrated that while developed countries are advancing toward a model of inclusion that encompasses physical accessibility, technological integration, and continuous pedagogical support, Ecuador continues to face challenges related to the sustainability and maintenance of existing resources and infrastructure. This contrast highlights the need for an educational policy that adopts international standards, alongside increased investment to ensure sustainability and continuous training for educational professionals in implementation and applicability.

This research identified a negative feedback cycle, in which the lack of

implementation of inclusive policies perpetuates inequality, reinforcing institutional inertia and resistance to change. Although this cycle is not always evident, it becomes visible when analyzing all the elements identified in this study. Any reform of the Ecuadorian education system must simultaneously address the regulatory structure, resource management, and educational culture, which will strengthen the system's capacity to include all students and offer a model applicable to other contexts facing similar challenges.

Conflict of interest: The authors declare no conflict of interest.

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