

REVIEW

Education and Equity: Challenges of Special Educational Needs (SEN) in Rural Ecuador

Educación y equidad: Desafíos del NEE (Necesidades Educativas Especiales) de las zonas rurales de Ecuador

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ABSTRACT

This article analyzes the main challenges faced by students with Special Educational Needs (SEN) in the context of digital education in rural areas of Ecuador. Through a systematic literature review using the PRISMA approach, structural, pedagogical, and technological barriers are identified that limit equitable access to inclusive, quality education. Among the most relevant findings are poor teacher training, a lack of curricular adaptation, limited technological infrastructure, and limited internet access in rural communities. Furthermore, cases of bullying toward students with SEN and weak implementation of inclusive public policies are evident. The study highlights the need to strengthen teacher training in inclusive education, promote digital literacy, ensure connectivity, and adapt pedagogical strategies to individual needs. It concludes that true educational inclusion in rural settings requires the joint commitment of the State, educational institutions, and the community to close inequality gaps and guarantee the right to education for all.

Keywords: Special Educational Needs; Inclusion; Digital Education; Rural Areas; Ecuador; Digital Divide.

RESUMEN

Este artículo analiza los principales desafíos que enfrentan los estudiantes con Necesidades Educativas Especiales (NEE) en el contexto de la educación digital en zonas rurales del Ecuador. A través de una revisión sistemática de literatura bajo el enfoque PRISMA, se identifican barreras estructurales, pedagógicas y tecnológicas que limitan el acceso equitativo a una educación inclusiva y de calidad. Entre los hallazgos más relevantes se encuentran la escasa capacitación docente, la falta de adaptación curricular, la limitada infraestructura tecnológica y el escaso acceso a internet en comunidades rurales. Además, se evidencian casos de acoso escolar hacia estudiantes con NEE y una débil implementación de políticas públicas inclusivas. El estudio destaca la necesidad de fortalecer la formación docente en educación inclusiva, promover la alfabetización digital, garantizar la conectividad y adaptar las estrategias pedagógicas a las necesidades individuales. Se concluye que una verdadera inclusión educativa en entornos rurales requiere del compromiso conjunto del Estado, las instituciones educativas y la comunidad, a fin de cerrar las brechas de desigualdad y garantizar el derecho a la educación para todos.

Palabras clave: Necesidades Educativas Especiales; Inclusión; Educación Digital; Zonas Rurales; Ecuador; Brecha Digital.

INTRODUCTION

Special Educational Needs (SEN) are classified as a disadvantage or greater difficulty in learning compared to their peers and, therefore, require additional help to achieve optimal educational development. In Ecuador, within the State, SEN is classified according to the LOEI (Intercultural Organic Law on Education). Firstly, there are Special Educational Needs not associated with disability and, secondly, Special Educational Needs associated with disability.⁽¹⁾

One of the main challenges in the education of students with SEN in rural areas is the lack of effective mechanisms to identify bullying. This type of violence is common in all educational institutions, but in rural contexts, where communities are more closed, the problem tends to be hidden. In addition, the lack of training in private schools also hinders the prevention and management of these situations, which puts the physical and emotional integrity of students with SEN at risk.

On the other hand, it is essential to associate SEN with inclusive education, as this has been evolving for several decades. It is now recognized as a pedagogical and social response that addresses the diversity and needs of children, young people, and adults, recognizing the particularities of each as unique and irreplaceable beings. Another relevant factor in the problem of inclusive education in rural areas is the lack of adequate infrastructure and technology to cater to students with SEN. “The digital divide remains an obstacle to educational equity, as many students in rural areas lack access to electronic devices, stable internet connection, and learning platforms adapted to their needs”.⁽²⁾ This situation limits the possibility of pedagogical innovation and hinders the application of personalized teaching methodologies that enable effective and inclusive learning.

In this context, educational technology has become a key tool for improving the quality of teaching and promoting the inclusion of students with SEN in rural environments. Digitization offers opportunities to adapt content to each student’s abilities and learning pace, promoting a more flexible education. However, for technology to effectively fulfill this role, strategies must be designed to facilitate its implementation and ensure sustainability in communities with limited resources.

This article aims to analyze the challenges faced by students with Special Educational Needs (SEN) in rural areas of Ecuador, focusing on bullying, the lack of inclusive strategies in educational institutions, and technology. It will examine the factors contributing to these problems and identify opportunities for improving educational equity through appropriate support policies.

METHOD

The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) method will be used to conduct this research, as it provides a structured and transparent approach to a systematic literature review. This method allows for the identification, selection, and analysis of relevant sources to obtain a comprehensive overview of the educational challenges faced by students with SEN in rural areas of Ecuador.

The methodological process will be carried out in the following stages:

- A systematic literature search will be conducted in academic databases such as Scopus, Web of Science, Google Scholar, and SciELO. Keywords such as “educational inclusion,” “rural areas,” “SEN,” “Ecuador,” and “school bullying” will be used to identify relevant studies.
- Articles published in Spanish and English in the last five years will be selected. Inclusion and exclusion criteria prioritize empirical research, systematic reviews, and studies addressing inclusive education in rural settings. Studies not directly related to the topic or lacking significant empirical evidence will be excluded.
- The information obtained from the selected studies will be categorized through extraction and analysis, identifying patterns, trends, and gaps in research on inclusive education and SEN in rural areas. Factors such as educational policies, intervention strategies, and structural barriers will be analyzed.
- A critical analysis of the studies reviewed will be carried out, establishing connections between the different approaches and results obtained. Based on the evidence gathered, recommendations will be developed to improve inclusive education in rural communities. This approach will provide a comprehensive understanding of the challenges faced by students with SEN in rural areas of Ecuador, providing valuable input for future research and intervention proposals aimed at improving educational equity.

RESULTS

Background

In 1948, Article 26 of the Universal Declaration of Human Rights established that “Everyone has the right to education.” Moreover, in 1982, the United Nations General Assembly adopted the World Program of Action for Disabled Persons to promote effective measures for the prevention of disability, rehabilitation, and the realization of the objectives of full participation of disabled persons in the development of equality. It highlights the right of persons with educational needs to have the same opportunities as other citizens and improve their living conditions by adopting normalization, integration, and participation.⁽³⁾

Similarly, the World Declaration on Education for All, adopted in Thailand (1990) and cited by the Ecuadorian Ministry of Education (2011), focuses on “Satisfying Basic Learning Needs,” identifying education as a fundamental right of all men and women of all ages throughout the world. It also establishes clear objectives to increase the number of children in schools and avoid discrimination.

Special Educational Needs

Within the Ecuadorian State, SEN are classified according to the LOEI in the first instance as Special Educational Needs not associated with disability, where the following can be identified: Dyslexia, Dyscalculia, Dysgraphia, Dysorthography, Dysphasia, Attention Deficit Hyperactivity Disorder, and Behavioral Disorders. In a second group are special educational needs associated with disability, which include the following: intellectual, physical-motor, hearing, visual, or mental disabilities; multiple disabilities; and generalized developmental disorders (autism, Asperger’s syndrome, Rett syndrome, among others).⁽⁴⁾

A theoretical review of the difficulties of special educational needs not associated with disability

The study conducted at the Los Shyris Educational Unit on the application of curricular adaptations in Social Sciences for students with learning difficulties provides relevant information on the educational reality of students with SEN in Ecuador. It was found that a significant number of students have dyslexia, dysgraphia, and dyscalculia, which highlights the need for specific strategies to address this population. However, the most worrying finding is the lack of coordination between teachers and educational psychologists, which prevents the effective implementation of curricular adaptations.⁽⁵⁾

Furthermore, the fact that the Student Counseling Department (DECE) does not provide specific recommendations on curricular adaptations for students with learning difficulties demonstrates a gap in teacher training and guidance. This lack of structured support can exacerbate educational inequalities among students with SEN, especially in rural contexts where resources are more limited.

This analysis reinforces the importance of clear and effective educational strategies that allow students with SEN to be included at all levels of the education system. Implementing innovative methodologies, strengthening teacher training, and creating more inclusive educational policies are fundamental aspects of guaranteeing equitable access to education. Likewise, incorporating educational technology can be a key tool to improve these students’ teaching and learning processes, provided that it is accompanied by appropriate strategies for its application in communities with limited resources.

Education as a fundamental need

Education is an essential element for human development, as it enables the acquisition of knowledge, skills, and values that guarantee people’s autonomy and social integration. According to Doyal and Gough (1992), education is a key satisfactor for meeting health and autonomy needs, making it a fundamental right. However, in many contexts, access to quality education is not equitable, especially for vulnerable groups such as people with disabilities. This creates an educational gap that limits their participation in society and restricts their opportunities for personal and professional development.⁽⁶⁾

Inclusive education and its challenges

Inclusive education is based on the idea that all people, regardless of their characteristics, should have access to quality education on an equal footing. However, its implementation presents significant challenges, such as inadequate resources, insufficient teacher training, and ineffective inclusion policies. In the case of students with disabilities, these obstacles can create barriers to their learning and affect their integration into the education system, reinforcing social inequalities and limiting their autonomy.⁽⁷⁾

Importance of curriculum adaptation

To ensure equitable education, it is essential to implement curricular adaptations that respond to students’ specific needs. Curriculum adaptation allows students with disabilities to access learning in optimal conditions, taking into account their characteristics. However, in many cases, the lack of coordination between teachers and special education specialists hinders the proper implementation of these adaptations, leaving students without the necessary support for their academic development.⁽⁸⁾

The role of the State and educational institutions

The State and educational institutions have a key role in guaranteeing the right to education for all citizens. Educational policies must promote equity and inclusion through the allocation of sufficient resources, teacher training in inclusive strategies, and the design of specific support programs for students with disabilities. The lack of concrete measures in this area perpetuates these students’ exclusion and limits their access to future opportunities in academia and the workplace.⁽⁹⁾

Education as a driver of social equity

Beyond being a fundamental right, education is a determining factor in reducing inequalities and promoting social equity. When access to inclusive education is guaranteed, opportunities are created for all people, regardless of their condition, to participate actively in society. In this sense, the implementation of inclusive education policies not only benefits students with disabilities but also strengthens social cohesion and the development of more just and equitable societies.⁽¹⁰⁾

Table 1. Analysis category of the studies reviewed

Author(s) and Year	Title of the Study	Objective	Methodology	Key Findings
Flores A. (2022) ⁽⁵⁾	A theoretical review of the difficulties of special educational needs not associated with disability	Analyze the difficulties faced by students with SEN not associated with disability.	Theoretical review	The lack of educational strategies to cater for these students is particularly striking.
Luque Parra DJ. (2020) ⁽⁶⁾	Special educational needs as basic needs. A reflection on educational inclusion	Reflecting on the educational inclusion of students with SEN	Theoretical and normative analysis	Proposes that SEN should be treated as a basic need within the education system.
Halanoca Puma D. (2022) ⁽⁷⁾	Inclusion of students with special educational needs and teacher learning management in educational institutions	Assess how teachers manage the learning of students with SEN	Qualitative study with teachers	Highlights the importance of teacher training for effective inclusion
Fonseca Montoya SRAR & VFA. (2020) ⁽⁸⁾	The inclusion of students with special educational needs as seen from the performance of teachers in Ecuadorian basic education	Analyze teachers' performance in the inclusion of students with SEN	Field study with surveys	Indicates that lack of teacher training is a barrier to inclusion.
Guerra S. (2018) ⁽⁹⁾	Students with special educational needs. Resources and support for their educational care	Identify resources and support needed for the education of students with SEN	Literature review	Highlights the need for accessible teaching materials to improve teaching
Cruz Bosquez JA. et al. ⁽¹⁰⁾	Educational Inclusion in Ecuador for Students with SEN	Exploring the state of educational inclusion in Ecuador	Documentary study	Identifies regulatory progress, but with challenges in implementation
López - Altamirano et al. (2021) ⁽¹¹⁾	Special Educational Needs: A look at activity planning according to the degree of disability	Analyze educational planning based on the degree of disability.	Case studies and surveys	Highlights the importance of personalizing learning
Ministerio de Educación de Ecuador ⁽¹²⁾	Inclusive and Special Education	Present educational policies for inclusive education in Ecuador	Public policy report	Proposes government strategies for the education of students with SEN
INEC (2020) ⁽¹³⁾	Household survey on information and communication technologies	Measuring ICT access in Ecuadorian households	National survey	It shows that only 40 % of households rural areas have internet access
CEPAL (2021)	Digital technologies for a new future	Analyze the role of ICT in Latin America's socioeconomic development	Public policy report	Highlights the need for investment in digital infrastructure
Cedeño et al. (2024)	Reducing the digital divide in rural areas: technological solutions for equitable education	Explore strategies to improve digital education in rural areas	Systematic literature review	Suggests access to devices and connectivity as key factors
Meza et al. (2022)	Virtual learning and its educational impact in rural Manabí	Assess the impact of virtual education on rural students	Teacher and student surveys	Identifies challenges in pedagogical adaptation and lack of technological resources
Velasco et al. (2021)	Digital inclusion and rural development: A comparative analysis in Latin America	Examine the relationship between digital inclusion and rural development in the region	Statistical data analysis and interviews	Highlights the importance of public policies to reduce the digital divide
Guarnizo et al. (2025)	Digital transformation in Ecuadorian rural education: obstacles and opportunities	Identify barriers and opportunities for educational digitization in rural areas	Qualitative analysis and literature review	Shows that lack of connectivity is the main obstacle
M. B. (2023)	The impact of ICTs on rural education: challenges and prospects	Examine the role of ICT in rural education	Review of previous studies	Indicates that teacher training is essential for the success of digital education

DISCUSSION

The results analyzed in this study highlight the main challenges faced by students with Special Educational Needs (SEN) in rural areas of Ecuador. The lack of adequate infrastructure, teacher training in inclusive education, and the digital divide limit equitable access to quality education. Despite advances in educational policies, barriers persist that hinder the full inclusion of these students.

One of the most critical problems identified is bullying, which is exacerbated in rural settings where communities are more closed, and reports of school violence are often limited. This affects the emotional well-being of students with SEN and negatively impacts their academic performance and retention in the education system.

Educational technology's potential to improve teaching and promote inclusion has been identified. However, its effectiveness depends on the availability of devices, stable internet connections, and accessible platforms for students with SEN. The lack of these tools limits the application of innovative methodologies that allow content to be adapted to each student's individual abilities.

From a pedagogical perspective, curriculum adaptation is key to ensuring inclusive education. However, the lack of coordination between teachers and special education specialists remains a significant barrier to its implementation. In many cases, educators do not have the knowledge or resources necessary to implement inclusive strategies effectively. These findings reinforce the need to strengthen public policies favoring inclusive education in rural areas, ensuring ongoing teacher training, adequate infrastructure, and promoting accessible technologies that help reduce the educational gap.

CONCLUSION

Inclusive education in rural areas of Ecuador faces multiple challenges, especially for students with special educational needs. Lack of infrastructure, insufficient teacher training, and the digital divide continue to affect equity in access to quality education.

Educational technology is emerging as a key tool for improving teaching and promoting inclusion. However, for it to be truly effective, its implementation must be accompanied by strategies guaranteeing its accessibility and sustainability in communities with limited resources. Likewise, detecting and preventing bullying must be a priority within educational institutions, with intervention mechanisms that protect students with SEN and promote safe learning environments.

It is essential that the State, educational institutions, and society in general work together to eliminate the barriers that limit the educational development of students with SEN. Inclusive education benefits students with disabilities and contributes to the construction of a more equitable and just society.

REFERENCES

1. Grijalba Bolaños JG, EPMA. La inclusión escolar un reto para la formación de Licenciados en Educación. *Univ Soc.* 2020;12(1):313-22.
2. Valenzuela R. Educación inclusiva en Ecuador: Propuesta desde las TIC. *Cienc Lat Rev Científica Multidiscip.* 2024;8(5):2014.
3. Cevallos M. Estrategias pedagógicas enfocadas a la inclusión educativa para un aprendizaje significativo de los y las estudiantes de Quinto año de Educación Básica de la Unidad Educativa Isabel de Godín de la ciudad de Riobamba [Tesis]. Riobamba, Ecuador; 2021.
4. Paguay M. Adaptaciones curriculares aplicadas en el área de Ciencias Sociales en los y las estudiantes con dificultades de aprendizaje [Trabajo de titulación]. Quito, Ecuador: Universidad Central del Ecuador, Facultad de Filosofía, Letras y Ciencias de la Educación; 2020.
5. Flores A. Una revisión teórica de las dificultades de las necesidades educativas especiales no asociadas a la discapacidad. Loja, Ecuador: Instituto Tecnológico de Loja; 2022.
6. Luque Parra DJ. Las necesidades educativas especiales como necesidades básicas. Una reflexión sobre la inclusión educativa. *Rev Latam Estud Educ.* 2020;39(3-4):201-23.
7. Halanoca Puma DM, et al. Inclusión de estudiantes con necesidades educativas especiales y la gestión del aprendizaje docente en las instituciones educativas. *Cienc Lat.* 2022;6(6):57-74.
8. Fonseca Montoya SR, et al. La inclusión de estudiantes con necesidades educativas especiales vista desde el desempeño de los docentes de la educación básica ecuatoriana. *Univ Soc.* 2020;12(5):438-44.

9. Guerra S. Los estudiantes con necesidades educativas especiales. Recursos y apoyos para su atención educativa. *Rev Electrón Educ Pedagogía*. 2018;2(2):51-66.
10. Cruz Bosquez JA, et al. Inclusión Educativa en el Ecuador para Estudiantes con NEE. *Dominio Cienc*. 2020;10(2):389-99.
11. López-Altamirano D, et al. Necesidades Educativas Especiales: Una mirada a la planificación de actividades según el grado de discapacidad. *Rev Científica Dominio Cienc*. 2021;7(4):719-30.
12. Ministerio de Educación. Educación Inclusiva y Especial. Quito, Ecuador: Editorial del Ecuador; 2020. Módulo I. 59 p.
13. Paguay M. Adaptaciones curriculares aplicadas en el área de Ciencias Sociales en los y las estudiantes con dificultades de aprendizaje [Undergraduate thesis]. Quito, Ecuador: Universidad Central del Ecuador, Facultad de Filosofía, Letras y Ciencias de la Educación; 2020.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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