

Article

Educational services, inclusion, and access to basic services in early childhood education centers: An analysis from the teachers' perspective

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Abstract: This study is part of a broader research project, but the component presented herein aimed to analyze the teaching perspective on the adequacy of educational services to address the individual needs of early childhood students, the level of teacher familiarity with the Inclusive Education Policy and the inclusive approach, and the access to basic services in Educational Centers serving early childhood in El Salvador. The theoretical foundation of this research is grounded in the Inclusive Education Policy and the National Policy for Early Childhood Development Support. This study employed a quantitative research approach with a descriptive scope. A two-stage probabilistic sampling was conducted in public Early Childhood Education Centers in El Salvador. The final sample comprised 2,336 teachers instructing this student population. A descriptive analysis was conducted using boxplots and measures of central tendency. The findings indicate that teachers' evaluations regarding the adequacy of educational services and their familiarity with the Inclusive Education Policy were generally positive (median of 8). Additionally, a hierarchical cluster analysis was performed to identify groupings based on the behavior of the variables, specifically through a dendrogram illustrating access to services.

Keywords: inclusive education, basic services, early childhood, teacher perception

1. Introduction

Education has undergone an evolving dynamic globally, driven by the need to prepare students to face the particular challenges of societies undergoing significant paradigm shifts. In this context, inclusive education has gained prominence across countries, and El Salvador is no exception. The Inclusive Education Policy (MINED, 2009) and the National Policy for Early Childhood Development Support 'Growing Together 2020-2030' (GOES, 2021) have provided the foundational frameworks to ensure that Educational Centers serving early childhood provide a quality environment for students at this level, including those with specific educational needs. These changes have driven the need for measurement, leading to the research question that motivated this study: How do teachers in Educational Centers serving early childhood in El Salvador perceive the adequacy of educational services and access to basic services, and what is their level of familiarity with the inclusive education policy?

This study enables the measurement of highly relevant variables, and its findings could provide valuable insights to enhance teacher training, improve educational infrastructure, and ensure the provision of basic services in Early Childhood Education Centers.

2. Literature Review

The theoretical framework supporting this study encompasses various public policies and theoretical perspectives that define the key elements of inclusive education, forming the basis of the present analysis. Initially, the Inclusive Education Policy introduced by the Ministry of Education of El Salvador in 2009 stands out for establishing guidelines for the inclusion of students across different levels and modalities of the national education

system, regardless of their characteristics or specific needs. This policy aims to eliminate barriers that hinder students' access, participation, and learning, emphasizing the necessity of appropriate infrastructure and basic services to ensure quality education. Additionally, the "National Policy for Early Childhood Development Support – Crecer Juntos 2020–2030" (GOES, 2021), updated in 2023 (GOES, 2024), provides a long-term framework for strengthening early childhood education programs. Through its four strategic pillars, particularly the "education and care" axis, it underscores the importance of creating educational environments that foster children's holistic development from their earliest years.

Regarding the theoretical foundations of inclusive education, this research builds upon principles established by renowned scholars in the field. Echeita (2017) argues that inclusion should not remain a theoretical concept but must be accompanied by concrete actions that promote equity. He emphasizes that key factors for achieving inclusive education in early childhood include the active participation of all educational stakeholders, access to appropriate pedagogical resources, and the adaptation of the curriculum to diverse student needs. This approach highlights the significance of an educational framework that ensures children's rights, encourages their participation, and fosters equity from an early age. Moreover, inclusion is inherently linked to issues of discrimination and exclusion, acknowledging that many students do not have equal educational opportunities or receive an education tailored to their individual needs and characteristics (Booth & Ainscow, 2002). In this context, creating inclusive learning environments ensures that all children, regardless of ability or background, have equal opportunities to learn. Importantly, "Ensuring inclusion in the early stages of education is essential for the holistic development of children, in order to lay the foundations for a more just and diversity-respecting society (Lagos et al., 2024).

Also, some authors have pointed out in analyses of early childhood education policy the importance of designing adequate physical environments, as mentioned by Chévez-Reinoza (2022):

On the design of functional and safe physical learning environments, the curricular guidelines define the standards for institutions to guarantee basic conditions. The policy is aligned with international recommendations, but there is a lack of data on compliance with these guidelines. (p.144).

In this regard, Cortés et al. (2018) argue that it is necessary to assess the organization of schools, how spaces are structured not only for learning but also to promote socialization and the participation of future citizens, where everyone learns together. This perspective aligns with the Model of Full-Time Inclusive Schools (MINED, 2014), which states that 'the school must be a space where all students, regardless of their characteristics, can learn together, actively participating in their educational process. This concept of space is designed to foster interaction, and collaborative learning is fundamentally important in understanding the role that the organization of spaces and infrastructure, in general, plays within the educational ecosystem.

Additionally, the theoretical framework is supported by theories that recognize participation conditions as a key factor in achieving effective inclusion in the classroom. Various studies have shown that children's active participation in the educational process and their integration into learning activities are fundamental to their social and academic development, particularly in early childhood. A study conducted in Schools in Mexico City revealed that school infrastructure, physical accessibility, and resource availability are related to students' active participation in the educational process. Physical barriers and inadequate resources limit participation and, consequently, effective inclusion in the classroom (De la Cruz & Matus, 2017). Similarly, a report by Save the Children Perú (2020) emphasizes that inclusive education involves eliminating barriers that limit the learning and participation of all children and adolescents, highlighting the need for school infrastructure to create an inclusive environment. These studies suggest that adequate school infrastructure is essential for creating an inclusive environment that fosters such participation.

In this context, some theories argue that basic services such as potable water, electricity, sanitation facilities, and perimeter security are not isolated elements but are closely linked to children's academic and social development, especially in their early years. Adequate educational infrastructure is not only essential for ensuring safe and healthy learning conditions but also for promoting inclusive education that meets the specific needs of all students. According to this perspective, basic services constitute a fundamental pillar for implementing inclusive educational practices, as they enable children to learn in an environment that enhances their well-being and overall development. Breve et al. (2016) support this view, stating:

Children's learning and the development of their skills and abilities are not only shaped by their immediate educational experiences but are also influenced by their broader social context and environment. In this

regard, Bronfenbrenner (1987), in his Ecological Systems Theory, asserts that an individual's development throughout life is influenced by multiple environmental factors and contexts (overlapping systems) that have a direct effect or interact to produce an indirect impact on their development" (p. 6).

This theoretical framework thus establishes the foundation for analyzing the adequacy of educational services, access to basic services, and the familiarity of early childhood education teachers in El Salvador with inclusive education policies.

3. Material and Methods

This study employed a quantitative research approach with a descriptive scope. A two-stage probabilistic sampling method was applied, consisting of simple random sampling in the first stage and stratified random sampling in the second. The sample was drawn from public educational centers in El Salvador that provide early childhood education.

The final sample comprised 2,336 teachers working with early childhood students. Data collection was conducted using a survey, specifically an online questionnaire administered via the QuestionPro platform. This software was chosen because it offers a flexible, professional survey design and advanced logic features that enable efficient data collection.

For data analysis, descriptive statistics were applied to quantitative variables measured on a ratio scale, while qualitative variables on a nominal scale were analyzed using percentage distributions. Additionally, a non-hierarchical clustering analysis was performed to identify clusters of educational centers based on selected variables.

4. Results

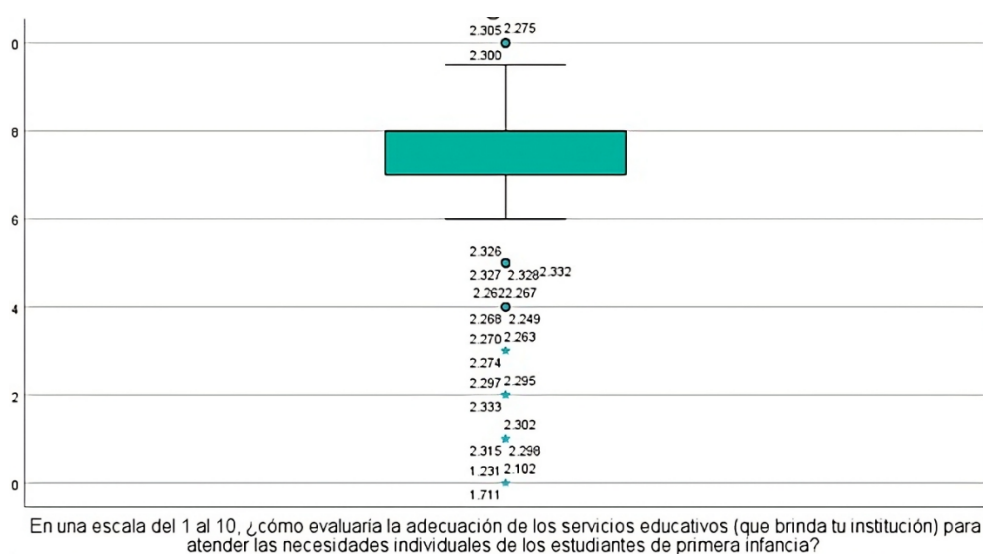
The following section presents the results of a survey of teachers on the adequacy of the educational services provided by their institutions to meet the individual needs of early childhood students.

Using a 1-10 scale, the boxplot shows that the median score is 8, with 50% of teachers rating their institutions 8 or higher. This finding suggests that, from the teachers' perspective, educational centers have made significant efforts to ensure that available services effectively address the specific needs of young children at this crucial stage of development.

Additionally, some responses represent outlier ratings, assigning scores that differ significantly from the majority. These outlier values are visually identified in the boxplot as individual points.

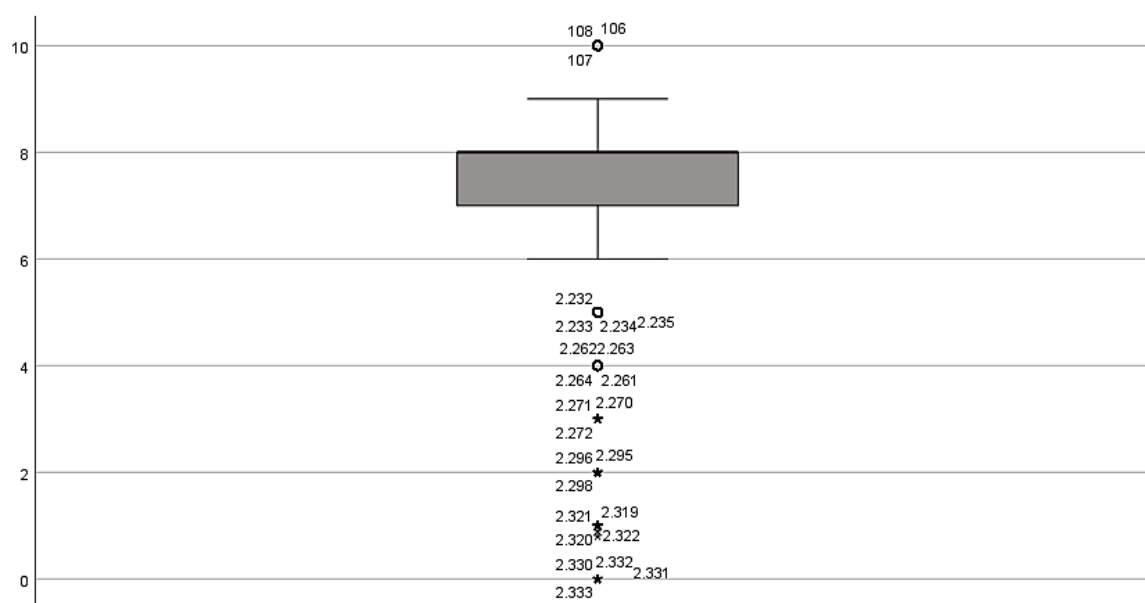
Figure 1

Teachers' perception of the educational accommodation provided by the institution



Source: authors' own elaboration

Regarding teachers' familiarity with the Inclusive Education Policy and the inclusion approach in the early childhood education context, the results show a pattern similar to that observed for the adequacy of educational services. From the corresponding boxplot, the median is 8, with 50% of the responses at or above this value. These results suggest that the majority of teachers report a high level of knowledge of the policy's guidelines and their application in the classroom.



En una escala del 1 al 10, ¿qué nivel de familiaridad tienes con la Política de Educación Inclusiva y el enfoque de inclusión en el contexto educativo de primera infancia?

Figure 2. *Level of familiarity with the Inclusive Education Policy and the inclusive approach.* Source: authors' own elaboration

The descriptive analysis of the variables showed that a high percentage of teachers reported that their Educational Centers offer these specific services. The percentages are detailed below.

Table 1. Presence of basic services in educational centers

| Type | Percent |
|--|---------|
| Potable water | 87.3 % |
| Electricity | 98.7 % |
| Perimeter security | 76.6 % |
| Sanitary facilities are in good condition | 70 % |
| Solid waste collection | 67 % |
| Exclusive restrooms for preschool children | 47 % |

Source: authors' own elaboration

Additionally, a cluster analysis of variables was conducted to examine the extent to which access to basic services is interrelated across early childhood educational centers. The dendrogram shows four clusters that group the most closely related services based on their presence in the educational centers. The first group includes access to drinking water, electricity, and perimeter security, which are often present together in the centers. The second cluster concerns the availability of well-maintained sanitary facilities associated with specific centers. A third cluster comprises centers that have waste collection services. Finally, the last branch defines a group of centers that have exclusive restrooms for early childhood students.

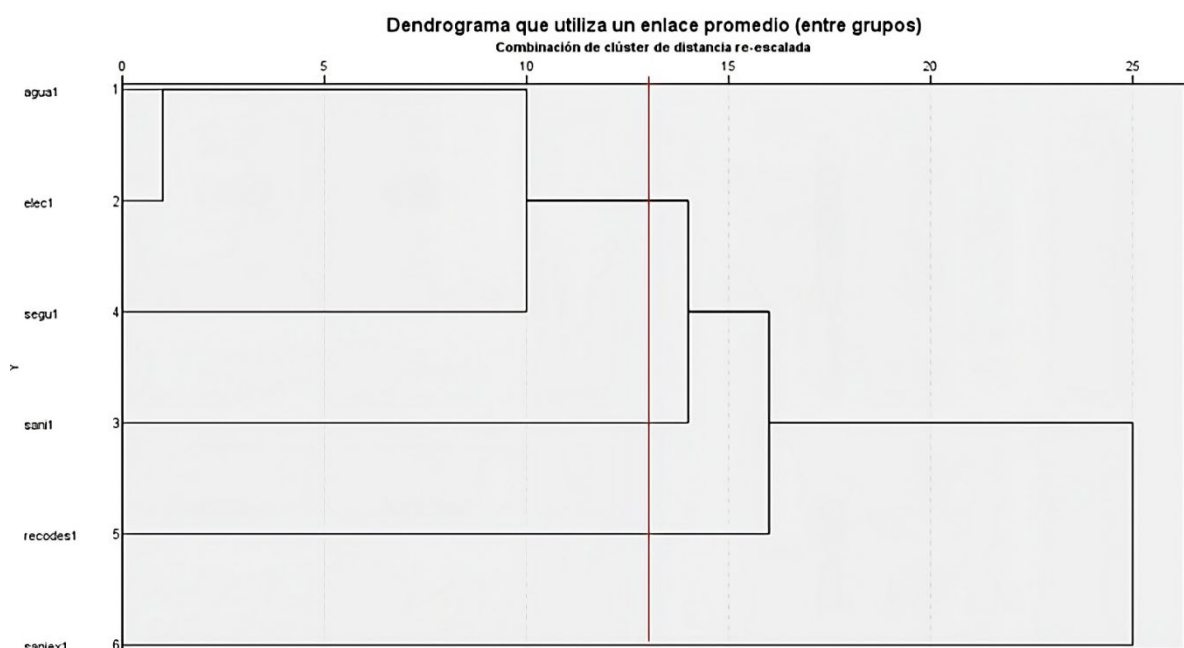


Figure 3. *Dendrogram of Basic Services Clustering in Early Childhood Education Centers.* Source: authors' own elaboration

5. Conclusions

The results obtained indicate that the majority of teachers report a high level of knowledge regarding the Inclusive Education Policy and the inclusive approach in early childhood, suggesting that teacher training has been a key pillar. This finding is partially in line with the provisions of the National Policy for Early Childhood Development Support 'Growing Together 2020-2030,' which emphasizes strengthening the training of educational stakeholders as a fundamental element for the holistic development of children in their early years.

From a theoretical perspective, these results reinforce the notion that educational inclusion depends not only on the existence of regulations but also on teacher preparation and the implementation of strategies to remove learning barriers, as proposed by Echeita (2017) and Cortés et al. (2018). Likewise, an analysis based on Bronfenbrenner's Ecological Systems Theory (1987) suggests that teachers' understanding of inclusion serves as a contextual factor that directly impacts the quality of the educational environment and, consequently, child development.

On the other hand, the cluster analysis of basic services in early childhood educational centers reveals that the availability of essential infrastructure varies depending on its interrelationship. Four main clusters were identified: (1) access to potable water, electricity, and perimeter security, which tend to occur together; (2) availability of functional sanitary facilities; (3) presence of a waste disposal system; and (4) existence of exclusive restrooms for early childhood children. These findings suggest that while there is widespread access to certain essential services, infrastructure gaps persist, particularly in the availability of exclusive restrooms, which are present in only 47% of the centers analyzed.

Frequency data reinforces this conclusion: services such as electricity (98.7%) and drinking water (87.3%) have high coverage, while aspects like waste collection (67%) and the availability of well-maintained restrooms (70%) indicate areas for improvement. The lower proportion of centers with exclusive restrooms for early childhood students highlights the need to strengthen infrastructure to ensure adequate hygiene and well-being conditions for this population.

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