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Social Inclusion in the Cognitive Development of Children in the Educational Unit 24 De Julio Chone-Manabí

Jessica Johanna Intriago-Rodríguez

Napoleon Davila Cordova General Hospital, Chone, Manabi, Ecuador
Corresponding author email: jessicaj.intriago@pg.ulead.edu.ec

Francisca Margarita Ávil-Rosales

Universidad Laica Eloy Alfaro de Manabí Extensión Chone, Manabí, Ecuador
Email: rancisca.avila@uleam.edu.ec

Abstract---Research was conducted on social inclusion in the cognitive development of boys and girls at the 24 de Julio Chone Educational Unit. The objective was to determine the impact of social inclusion on the cognitive development of children at this institution. A mixed approach (qualitative and quantitative) was adopted, including analytical and systemic methods and descriptive methods. The techniques used included an observation sheet for classroom students and an interview with the grade-school teacher. The sample consisted of teachers, administrators, and students, while the sample consisted of 25 students from the school and the grade-school teacher. By observing the unique characteristics of each child and, above all, by paying attention to their abilities, these served as the main support point for developing inclusion strategies. The result was that, with the use of strategies related to Neuropedagogy, through the creation of a drawing by the children, there was a positive impact since they were able to identify and graphically describe the characters in the reading, showing that through these types of strategies related to the plastic arts, the children were able to improve their reading comprehension.

Keywords---children, cognitive development, social inclusion, students.

Introduction

The study on social inclusion in the cognitive development of children of the 24 de Julio Educational Unit, city of Chone, arises from the unequal access to resources and curricular adaptations, Students with diverse educational needs (disabilities, low socioeconomic status, ethnic minorities) lack adapted teaching materials, assistive technologies and personalized pedagogical strategies, limiting their full participation in the cognitive process, such as the lack of teacher training, teachers show difficulties in implementing methodologies that integrate students with different learning rhythms, affecting the development of cognitive skills such as critical thinking or problem solving, especially in children with undiagnosed disabilities (Carson et al., 2015).

In Latin America (Stainback & Stainback, 1999; UNESCO, 2020), they emphasize that there are educational systems with high rates of socioeconomic and curricular segregation, parallel with Ecuador, Chile, Mexico and Peru, there are children in rural areas such as Chone-Manabí who present cognitive gaps of 25 and 30% in PISA tests due to the lack of transversal inclusive policies, evidenced by the third report (UNESCO) reveals that schools without curricular diversification programs affect the development of executive functions (memory, attention).

In Ecuador (MINEDUC, 2019; ULEAM, 2021), in Manabí, in 15 rural schools, it was evident that 40% of teachers do not master strategies for diverse educational needs. Indigenous children (Montubios) have 20% fewer opportunities for early cognitive stimulation. Parallel in Sierra: In Cotopaxi, bilingual schools (Kichwa-Spanish) without contextualized materials limit the development of logical-mathematical thinking (Flores, 2022), in the 24 de Julio Educational Unit in the city of Chone it is not an isolated case: in a certain sense, after analysis "Inclusion is not

an expense, it is an investment in national cognitive capital. What you deny a child today, you take away from the development of your region tomorrow" (Stainback, 2004).

It is necessary to clarify the circumstances surrounding the problem of children's lack of cognitive development. While it is true that for teachers, everyone is equal, the inequalities inherent in the environment become evident during their classes. Many educational institutions house children from different social strata, which makes a significant difference when assessing their prior knowledge. For example, within the classroom, there are very good students, but also children who do not want to learn (Simplican et al., 2015).

In this context, the research is developed to solve fundamental questions that revolve around: What are the characteristics related to the diversity of the classroom? How can we include children in the educational process? And how can we improve these students' cognitive development? Resolving these questions is not easy; the answers must be provided through collaborative work by all involved.

Materials and Methods

The research had a mixed approach, with data collection methods, bibliographic or documentary academic search in various information sources, and fieldwork in the application of the instruments at the 24 de Julio Educational Unit in the city of Chone. The scientific research methods were applied: inductive, deductive, analytical, and synthetic, under a descriptive design. The data collection techniques were observation directed to classroom students, interviews with the grade teacher, and a practical exercise with children involving neuropedagogy strategies of the visual arts. The population is 120 people, and the sample is by non-probabilistic convenience, 25 EGB students and the grade teacher.

Results and Discussion

Social inclusion

Inclusion in the social development of children is a fundamental issue for ensuring a more equitable and just society. In many communities, children face significant obstacles that limit their full development, such as economic, cultural, social, and physical barriers. These factors can negatively affect their emotional and academic well-being, as well as their ability to interact effectively with their environment.

In this regard, Pérez-Morales et al. (2021) point out that inclusion has been primarily understood from a bodily perspective, leaving aside the social, cultural, and economic aspects. This has made it difficult to fully address vulnerable and marginalized groups, especially regarding enrollment and retention in school, which is why some children are deprived of educational opportunities (p. 3).

To achieve inclusive education, it is essential to adopt a diverse approach in the classroom, tailoring instruction to the unique needs of each student. Above all, students must be treated as individuals, as the diagnosis does not determine their development, but rather the tools provided to each individual to cope with it. Leadership in the classroom can be taken to a transformative level, accompanied by the appropriate tools for teachers (López, 2022).

According to the Organic Law on Intercultural Education, LOEI (2023), Art. 10. Curricular Flexibility. Literally, a. Curricular Adaptations: When the national curriculum is complemented or adapted to the specific educational needs of students. This involves designing, applying, and evaluating tools that allow for individuality in the teaching-learning process, in order to guarantee inclusion, permanence, learning, promotion, and completion within the educational system.

However, for Lodi (2014), the current education policy is discursively contradictory by significantly breaking with principles, rights, and educational conditions offered to the deaf (p. 289). From the point of view of Mora et al. (2023), it is pointed out that inclusion as an institutional process requires the contribution of diverse instances where the diversity of deaf people is a priority in the generation of support strategies for the student community (p. 140).

In this sense, to normalize and facilitate the inclusion of students with disabilities in everyday life, teachers must understand their students' realities. To this end, they must be informed, trained, and adopt new and innovative strategies to improve English language learning. According to Torres et al. (2022), "As educators, it is sometimes difficult to make curricular adaptations to subjects to achieve the inclusion of students with special educational needs" (p. 107).

The difficulties that basic education students have during the teaching-learning process have become a concern for teachers, especially considering a low level of inclusion, which is necessarily reflected in the level of low grades that these students present. In this regard, Fandiño (2022)

identifies that current inclusive education ratifies the importance of analyzing and proposing strategies that allow diverse populations to have access to information, to teaching and learning processes in the classroom, and to the multiple social, cultural, academic, and technological processes, so that information is reached and knowledge and knowledge is achieved from the search for quality education (p. 16).

The teaching-learning process at the basic education level is not an easy task due to various factors that demotivate children. These include the unfavorable environment for developing skills appropriate for this level of learning, the lack of teacher training, the limited availability of support materials for teachers, and even the students' home environment, all of which contribute to a misconception about this task.

In this sense, it is necessary to incorporate teaching tools into teaching activities for this segment of the student population, since educational regulations currently prioritize these individuals. According to the publication of the Organic Law on Disabilities (2012), Article 28 states that the national education authority must prioritize inclusive education. It also points out that it is pertinent to incorporate technical, technological, and human support in educational establishments nationwide.

To address the diversity of the classroom, teachers must be attentive observers, interested in finding innovative responses to children's unique learning situations; an observer of each child's unique characteristics, their interrelationships, and the environment in which they operate. Above all, teachers must pay attention to students' tastes and abilities, as these will serve as the primary foundation for developing inclusion strategies. Finally, the success of an educational process, with regard to elementary school students, lies in the support they receive at home. It is therefore very difficult to assume that a student will perform well in school if they are not provided with the necessary support at home (Isailă, 2012).

Cognitive development

From an educational perspective, cognitive development is reflected in all the skills and abilities that children can develop. Similarly, it is reflected when children interact with their environment by performing different actions or activities in general. It is therefore important to identify any difficulties in this area to apply solutions so that it does not affect the children's lives later on (Peñaloza Remache & Saico Guartan, 2023). Acquiring information, organizing it, and adapting it individually (Ramírez-Trejo, 2021).

In this regard, Gardner (1995), in his theory of multiple intelligences, divides the human brain into 8 cognitive blocks, each with its own characteristics, in which it is proven that depending on each person, there is diverse development. It is through this that the strengths and weaknesses that each person has are explained. This theory is linked to what was mentioned by Vygotsky (1997), about cognitive development. It can be mentioned that learning begins its development, taste, and strengthening at home and in the social environment in which it develops. Abusamra (2009) identifies an additional element, indicating that the problem of the lack of reading comprehension is also related to the progressive development of daily reading habits on digital devices by children and young people.

Cognitive development is the central element of the teaching and learning process, where students learn content when they can analyze and interpret its meaning. Therefore, it is necessary to deepen knowledge through active participation in the classroom, applying dynamic and interactive methods and techniques that capture the student's attention. In this sense, virtual environments often play an important role in the educational process (Moreira et al., 2021).

Reading comprehension

Current demands at the level of Basic General Education determine the need to substantially improve the ability to understand what is read; therefore, the training of teachers with experience in implementing these types of strategies is required. Based on the definition by Rodríguez et al. (2018), the teaching-learning process of reading comprehension is the fundamental pillar of education. Its development takes on special importance during primary education, but it is the basis for performance at all subsequent educational levels (p. 34).

Reading is an activity that requires a personal commitment that begins at school age, and it is at this point that children acquire the habit of reading. For this reason, at the level of Basic General Education, it is necessary to emphasize daily reading and develop methodologies that foster reading comprehension. At the same time, the implementation of good teaching practices for reading comprehension in the EGB (General Basic Education) contributes positively to the development of quality and, consequently, comprehensive reading in children. The mere fact of knowing how to read well improves overall academic performance. Therefore, innovation in pedagogy must

imply improving children's reading ability, applying punctuation standards, and developing the ability to infer a given text (Pazmiño-Vaque & García-Loor, 2022).

The objective of the observation applied to the students was to determine the diversity of the classroom, observing particular situations in the teaching-learning process. To determine the physical or cognitive characteristics that each child exhibits. The purpose of the exercise was to generate information that would allow us to determine exactly what type of difficulties children have. Based on this information, we would determine the most appropriate teaching strategies, as shown in Table 1.

Given the fact that 80% of students in the grade had difficulty with reading comprehension, without specifying the reasons for this difficulty, the purpose of the exercise was to demonstrate the practical use of drawing techniques to describe the characteristics of the different characters in the reading, "Hoy llevé mi cometa de colores al campo" (Today I Took My Colorful Kite to the Countryside) and their role within the work. This was an independent project in which each student developed a drawing based on their own understanding and interpretation of the reading.

To this end, a practical exercise was conducted to recreate the characters from the reading. By creating a drawing, the children were able to identify and graphically represent the characters from the reading "Today I Took My Colorful Kite to the Field," demonstrating that children can enhance their cognitive development through neuropedagogical strategies in the visual arts. For this purpose, they were instructed to identify the characters from the reading and, through drawings, describe the role each character plays within the reading.

In this regard, Moreno et al. (2024), identify that neuropedagogy addresses recent advances in the integration of neuroscience and pedagogy to offer new strategies that improve teaching-learning processes and promote a more inclusive education (p. 1).

Table 1
Observation sheet items

Item	Observed elements
1	He is easily distracted and loses interest and attention in class.
2	He tires quickly and does not maintain his attention for a prolonged period.
3	He is distracted and quickly changes activities.
4	Experience's difficulty in understanding and following instructions
5	Many times, you cannot do the activity alone; you need direct advice.
6	Shows limited curiosity to know and explore what surrounds him.
7	Requires support to start, develop, and complete schoolwork
8	Has difficulties in writing
9	Reverses letters, numbers, words, or phrases when reading, copying, or writing
10	He shows difficulties in reading, even short texts.
11	Has difficulty understanding what he reads
12	Records difficulties in understanding a mathematical problem
13	You need constant repetition to acquire new knowledge.
14	He leans very close to write or read, opens and closes his eyes repeatedly
15	He has articulation disorders: he does not pronounce correctly
16	He has a limited vocabulary: he only says a few words.
17	The range
18	He has some physical alteration that limits his ability to communicate.
19	Does not react to loud and abrupt sounds
20	Complaints of persistent pain or ringing in the ears
21	Frequently asks what or how, and indicates that he does not understand what is being said.
22	Experiences difficulties establishing communication with others

Source: Adapted from CONAFE (2010)

When analyzing the results obtained in relation to determining classroom diversity, these show that at the Item 1 level, 32% of the students showed signs of losing interest. At the Item 3 level, 32% of the students showed signs of distraction during class. The information collected showed that at the Item 10 level, 80% of the students observed showed difficulties in reading, including short texts. Similarly, when observing Item 11, 80% of the students observed showed difficulties in reading comprehension without specifying the reasons for such difficulty. In aspects such as Item 12, 8% of the students registered difficulties in understanding a mathematical problem. With respect to Item 14, 4% of the students observed looked very close to write or read and opened and closed their eyes repeatedly.

It should be noted that in Item 15 it was observed that 4% of children have articulation disorders: they do not pronounce correctly. The results of the observation form are shown in Figure 1.

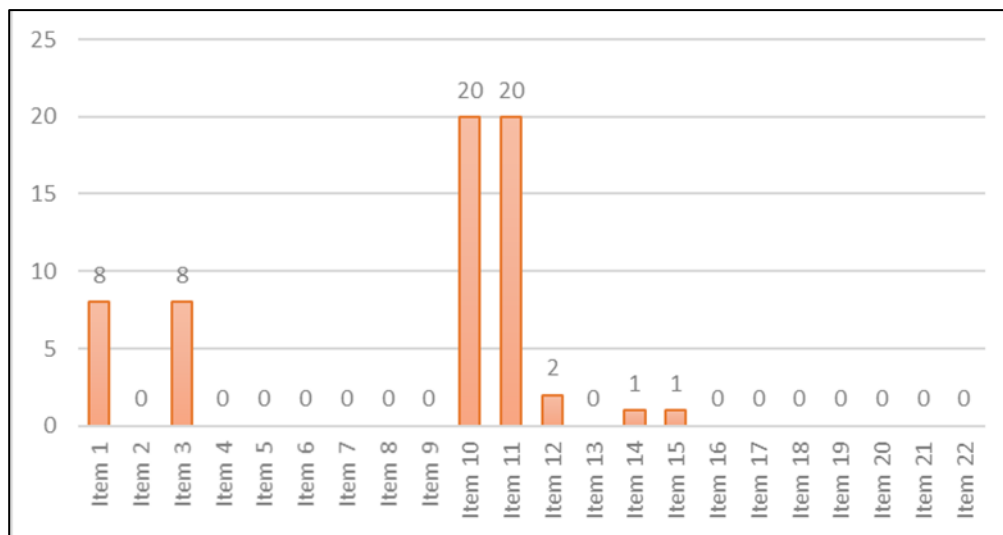


Figure 1. Results of the observation sheet

Source: Information obtained based on the observation exercise

Furthermore, the purpose of interviewing the grade-school teacher was to investigate his perception of social inclusion in the cognitive development of children at the 24 de Julio Educational Unit in the city of Chone. In this regard, the teacher stated that, from his perspective, inclusion in the social development of children means ensuring the full and equitable integration of all children in all areas of society. At the same time, the teacher indicated that it must be developed holistically, respecting diversity and ensuring access to the same opportunities as every child, regardless of their origin, social status, gender, disability, or other differences, so that they can grow up in an environment that fosters their well-being, learning, and participation in the community.

It is important to note that the information obtained reflects the educational environment in which teachers work, it should be noted that for this research a public institution was taken into account where the quality of its students differs from each other, since they come from different socioeconomic and cultural realities, hence it is considered that teachers use different strategies to teach reading based on what they consider appropriate and according to the characteristics of their group of students. According to the Teacher, cognitive development at the beginning of the educational process is of relevant importance since, at this stage, it is where the teacher can develop study habits in the child, through the implementation of inclusive activities, where both the parent and the teacher can do coordinated work to improve the cognitive development of boys and girls.

Schools play a key role in promoting an inclusive environment that fosters equal opportunities and interaction between children from diverse backgrounds, which enhances their social, emotional, and cognitive development. However, barriers to this inclusion exist, such as discrimination, lack of resources, and stigmatization, which prevent some children from accessing the same rights and opportunities. To overcome these challenges, it is essential to have strategies that promote their cognitive development, as well as to raise awareness in the community and families about the importance of fostering a culture of respect and acceptance.

In this regard, an exercise was implemented to characterize, through drawing, the role each character plays in the reading. Through drawing, the child was able to identify and graphically describe the characters in the reading "Today I Took My Colorful Kite to the Field," demonstrating that through neuropedagogy strategies in the visual arts, children can improve their reading comprehension, as shown in Table 2.

Table 2
Results of the exercise

"24 de Julio" Educational Unit					
Student	Assessment	Student	Assessment	Student	Assessment
E1	7	E11	5	E21	5
E2	6	E12	4	E22	4
E3	6	E13	6	E23	4
E4	5	E14	8	E24	6
E5	8	E15	8	E25	4
E6	7	E16	4		
E7	6	E17	5		
E8	8	E18	5		
E9	7	E19	7		
E10	7	E20	6		

Source: Information obtained based on the results of the drawing exercise

The problem of social inclusion in children's cognitive development has various facets that are important to understand. This includes the presence of students with disabilities, socioeconomic difficulties in families, and a lack of motivation, all of which prevent significant cognitive development. However, it is argued that with the implementation of strategies based on neuropedagogy, it is possible to achieve significant progress in children's cognitive development, promoting a more inclusive education.

Within this framework, cognitive development is considered a fundamental aspect that allows testing a relationship between intrinsic and extrinsic motivating factors of the child, which condition the educational management of the teacher based on professional practice and the achievement of the objective. This is stated by [Ausubel \(1983\)](#), who maintains that student learning depends on the previous cognitive structure that is related to new information. Cognitive structure should be understood as the set of concepts, ideas that an individual has in a certain field of knowledge, as well as their organization.

In order to test the hypotheses raised, we first proceeded to determine classroom diversity, to verify the physical or cognitive characteristics that each child exhibits. In this regard, the information obtained revealed that a majority of children experience difficulties in reading, including short texts, and also have difficulties with reading comprehension.

Secondly, a practical exercise was developed using drawing techniques to describe the characteristics of the different characters in the reading, "Today I Took My Colorful Kite to the Field," and their role within the work. This was an independent project in which each student developed a drawing based on their own understanding and interpretation of the reading. For illustrative purposes, [Abusamra \(2009\)](#) points out that the problem lies not only in text comprehension but also in text production. He adds that there is a big difference between understanding a text and producing a text. However, at the practical level, these two skills are complementary. In this regard, perception is everything related to various processes and activities linked to text production, through which the brain gathers information related to its own environment. The comprehension-related actions that occur will depend on the child's mood and level of connection with their environment.

In this sense, [Gorodokin \(2005\)](#) considers it feasible to use neuropedagogy as a tool to contribute to the reorientation and improvement of teacher training practices (p. 6). Historically, teacher training has been characterized by being traditional and theoretical. From our perspective, teaching practice should be considered a social activity where the incorporation of sociocultural aspects is combined with educational models that respond to current needs. The production of texts or any other element produced by the child's hand allows the brain to gather information related to its own production and, therefore, enables better understanding.

In this context, the Active Hypothesis (AH) is adopted, since through the use of strategies related to Neuropedagogy, children who had reading comprehension problems, by producing text, in this case a drawing, constructed their own graphic narrative about the reading content and, therefore, a more active comprehension of the text.

Reading comprehension is a fundamental and urgent task within a child's teaching-learning process that requires the development of various cognitive skills. However, the lack of progress and advancement of these skills hinders meaningful learning in textual comprehension. In this regard, [Abusamra \(2009\)](#) differentiates, indicating that the problem lies not in text comprehension but in text production. He adds that there is a big difference between

understanding a text and producing a text. In this regard, perception is everything related to various processes and activities linked to text production, through which the brain gathers information related to its own environment. The actions carried out within it will depend on the child's mood and level of connection with their environment.

Conclusions

Social inclusion in education refers to the process of ensuring that all children at Unidad Educativa 24 de Julio, regardless of their characteristics or needs, have a more active participation in the teaching-learning process. In this sense, when inquiring about the diversity of the classroom was confirmed through the observation sheet, which showed that most of the children and girls from this institution had various reading comprehension problems, that is, they cannot focus on the reading, and they also could not determine who the characters in the reading are.

Using strategies related to Neuropedagogy, through the creation of a drawing, the child was able to identify and graphically describe the characters in the reading "Today I took my colorful kite to the field", demonstrating that through this type of strategies related to the visual arts, the child was able to improve his reading comprehension, perfectly identifying and describing the characters in the reading and, above all, characterizing the role that each of the characters plays within the reading.

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