

# Reading Comprehension Skills In Elementary School Students From Sucre, Colombia

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## ABSTRACT

The objective of present study was to characterize reading comprehension in a sample of elementary school children in Sincelejo, Sucre. The project was framed under a quantitative approach; it is a non-experimental, cross-sectional, descriptive study. In compliance with the inclusion and exclusion criteria established in the study, a sample of 86 children in the third and fourth grades of primary school, a school stage in which children of these ages (8 and 9 years old) have developed their reading skills with a certain maturity degree was selected. The results show that most of the study population obtained scores below the mean in the semantic skills of text comprehension and sentence comprehension, with third graders showing the greatest difficulties in the two modalities evaluated.

**Keywords:** Reading comprehension, Language, Students, Semantics

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## 1. INTRODUCTION

Reading is one of the cognitive skills that human beings develop when they are immersed in a collective or individual educational system, or through the homeschooling strategy. Within reading skills, text comprehension is a complex process that involves interpreting the meaning of words and their relationship in each sentence. From a cognitive perspective, it is assumed that reading is executed by processing at different levels. It ranges from basic processes of grapheme perception, grapheme-phoneme conversion, word recognition and assignment of syntactic functions to the words that make up the sentence, to higher-level processes such as integrating the meaning of the sentences that form a discourse and making inferences, which are important for understanding the world (Gallego Ortega et al., 2019).

The reading process can be understood as a context of interaction between the reader and the text, whose purpose is to decipher and understand the message to be transmitted through written language (Fernández, 2022). From the concept definition of reading, it is understood that the purpose of the act of reading is the processes of decoding the written message and, once decoded, being able to understand the meaning of that message (Francisco Iglesias, 2016). In every individual, the inherent

purpose of reading is comprehension, which implies the reader's ability to have and use different strategies that help him/her to understand different texts, textual intentions, reading objectives and to solve multiple situations to make a given content his/her own (García-García et al., 2018). If it is about exposing a concept or definition, reading comprehension is a skill that involves the set interpretation of words in relation to a meaningful context, as well as the impact perception of its sensory, emotional, and intellectual force. It becomes necessary to link the word to the reader's experience, given that such a process is preceded by the reader's rapport with a text within a given context (Flórez & Gallego, 2017).

It is of important consideration to expose that reading constitutes a fundamental competence for school performance and for daily life, whose achievement depends largely on a positive attitude towards it. As the philosopher Rousseau explains, "any method for teaching can be adequate if we have a positive attitude on the part of the learner" (Artola et al., 2018). In the school environment, it is essential for learning that students develop reading comprehension skills, since this ability will allow them to process the information received and could identify main and secondary ideas, literal data, inferential situations, among others.

In research conducted in Bolivia, by Mendoza, in 2021 (Methodological strategies for learning comprehensive reading), the results show that in the analysis conducted, regardless of whether the reading corresponded to the school grade, the students failed to comprehend from the three levels contemplated in the test, a derivation that exposes the difficulty of the sample in the interpretation of texts (Mendoza Machado & Mendoza Machado, 2021).

In Colombia, García Miguel studied reading comprehension and school performance in a group of schoolchildren, he concluded that the most important reading comprehension difficulties are concentrated in the inferential level and the contextual level. At the inferential level, the student constructs the meaning and establishes the relationship of ideas including implicit information, by performing analysis processes, synthesis, induction, deduction, etc. At this level, greater difficulty is presented with problems in deducing, analyzing and concluding new information from that found in the text (García-García et al., 2018). Studies such as those mentioned expose that in the school stage, particularly in the grades in which the ability to comprehend written texts is defined and matures, the student continues to present serious difficulties when implementing strategies and demonstrating their skill to interpret what is read; many fails to develop the necessary comprehension skills and written texts production. This is a problem that should be of concern to teachers, parents and administrators, since it is expected that at the end of their basic level, students will achieve all the required reading skills.

Thus, to achieve comprehensive reading, the reader must go through different cognitive processes that, considering the complexity level, are grouped into basic and higher processes. Among those that are part of the most elementary reading level are the perceptual and lexical processes.

On the other hand, higher level processes are made up of syntactic and semantic processes (Cayhualla et al., 2013). In the evaluation process executed through the application of the PROLEC-R

Battery, the semantic processes are made up of text comprehension skills and sentence comprehension, sections that were considered in the evaluation in order to characterize reading comprehension in the population that was the object of this research.

This study purpose was to characterize the reading comprehension skills of school children who complete primary school from the municipality of Sincelejo, Sucre, Colombia. Through the application of the Battery for the Evaluation of the Reading Processes of Children in primary school (PROLEC-R), which was used to determine the reading comprehension status of the target population.

## 2. MATERIALS AND METHODS

### 2.1 Type of Study

The research is descriptive. It was developed under a quantitative approach, non-experimental and cross-sectional design. This study described the ability of third and fourth grade students of EBP to comprehend isolated sentences and texts, in an elementary school in the city of Sincelejo, Sucre.

### 2.2 Population And Sample

A probabilistic sampling was used, implementing the epidemiological calculator OPENEPI version 3.0.3 using the formula for finite populations:

$$n = \frac{\text{EDFF} * Np(1 - p)}{\frac{d^2}{Z^2} - \frac{\alpha}{2} * (N - 1) + p * (1 - p)}$$

with 95% confidence and 5% precision. The sample consisted of students enrolled in third and fourth grades in an educational institution from Sincelejo city. Finally accessing 86 students who met the inclusion and exclusion criteria proposed in the study, within which children with possible visual difficulties were discarded, through the application of the Snellen Chart (García Aguado et al., 2016).

### 2.3 Instruments

Battery for the Evaluation of the Reading Processes of Children with EBP (PROLEC-R). It evaluates the processes involved in the comprehension of written material and detects difficulties in reading ability. The PROLEC-R provides information on the child's difficulties in reading, in addition to providing some educational tools for the processes recovery that present difficulties. The scope of its application is established for children from 6 to 12 years of age, with a variable duration between 20 minutes with students in 5th and 6th grade of primary school and 40 minutes with students in 1st to 4th grade of primary school (Cuetos et al., 2005). In this case, a pilot test was carried out on this instrument by applying the Crombach's Alpha coefficient (Torres Leandro, 2021) to check its internal consistency, with a result of 0.80, which suggests that the instrument has a good reliability for its application in the study population.

### 2.4 Procedure

To make the research effective, the educational community was initially approached with the purpose of socializing the study intention with teachers, directors, and parents, in order to fill out the informed consent form and to start the execution of the schedule proposed by the researcher. Subsequently, the data collection stage continued, after the application of the evaluation instrument to fulfill the objective of the study.

As for the data processing plan, once the assessment instruments were applied, tabulation was executed, creating a database in accordance with the variables under study, which were stored in a capture form designed in EPI INFO. The database was stored in an xls file. The statistical package SPSS version 23 (Pacheco et al., 2020) was used to process the information. The estimators were assessed by age and sex, with the aim of controlling for confounding variables.

For the presentation and analysis of the results, univariate and bivariate tables and others were used in the descriptive component according to the objectives. The descriptive analysis was done through frequencies and percentages.

## 2.5 Ethical Considerations

The research was guided within the framework of the World Declaration of Helsinki as amended in the 64th General Assembly in Fortaleza, Brazil (Manzini, 2000). It is governed by the provisions of Resolution 008430 of 1993 of the Ministry of Social Protection (Minsalud, 2021) and the respective informed consent form was filled out for the participation of the population in the study.

## 3. RESULTS

### 3.1 Socio-demographic characterization of the sample

The sociodemographic data of the sample (Table 1) show that most of the children were 9 years old (61.6%), mostly in third grade, with 59.3% male. Many these children belong to socioeconomic stratum 1 (51.2%) and 2 (47.7%).

**Table 1.** General population information

		Frequency	Percentage
AGE	8	33	38
	9	53	62
	Total	86	100,0
SEX	FEMENINE	35	40,7
	MASCULINE	51	59,3
	Total	86	100,0
GRADE	3•	51	59,3
	4•	35	40,7

		Total	86	100,0
		1	44	51,2
		2	41	47,7
		3	1	1,2
STRATA		Total	86	100,0
	PARENTS' EDUCATIONAL LEVEL	HIGH SCHOOL	38	44,2
		PRIMARY	35	40,7
		PROFESSIONAL	4	4,7
		TECHNICIAN	5	5,8
		TECHNOLOGIST	4	4,7
		Total	86	100,0

Source: authors' own elaboration

### 3.2 The comprehension reading assessment results

It is worth describing these results in a unified manner, since the data obtained in the respective evaluations show that both text comprehension and sentence comprehension skills show identical behavior in terms of the scores obtained by 8- and 9-year-olds in both modalities (Table 2 and Table 3). The statistical analysis shows that most of the participants obtained scores below the mean in both age groups, evident, in equal proportion, in 72.7% of the children under 8 years of age and in 56.6% of the 9-year-olds. The data reveal that more than half of the subjects in both school grades (third and fourth) score below the mean in text comprehension tasks and in sentence comprehension tasks; however, it is the 8-year-olds (third grade) who make the difference in the difficulties encountered.

**Table 2.** Sentence Comprehension

SCORE	8 years n=33		9 years n=53		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
BELOW AVERAGE	24	72,7	30	56,6	54	62,8
ABOVE AVERAGE	9	27,3	23	43,4	32	37,2
Total	33	100,0	53	100,0	86	100,0

Source: authors' own elaboration

**Table 3.** Text Comprehension

SCORE	8 years n=33		9 years n=53		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
BELOW AVERAGE	24	72,7	30	56,6	54	62,8
ABOVE AVERAGE	9	27,3	23	43,4	32	37,2
Total	33	100,0	53	100,0	86	100,0

Source: authors' own elaboration

#### 4. DISCUSSION

In view of the results shown, a large part of the sample studied presented failures in sentence comprehension and text comprehension, with the 8-year-old children group in third grade standing out, since most of them presented scores below the mean in both categories evaluated. In line with this finding, it is important to mention that reading comprehension is a dynamic process that occurs in real time, and the ability to execute each of the sub-processes that comprise it is of vital importance. For example, a slow word reading will limit comprehension, by demanding cognitive resources that could be used when integrating the sentences or texts meaning, as exposed by the present study in the evaluation of these two semantic processes, hinting that the optimization of basic mental processes can positively influence reading comprehension (Cruz et al., 2016).

On the other hand, a study published in Ecuador, exposes in its results that the children evaluated presented 81% of successes in the ability to understand short sentences, with simple structure, however, only a small group succeeded in the skills of understanding texts, affirming that these minors also present failures in lexical processes and that therefore they will have problems to perform syntactic processes, difficulties at the reading comprehension level or in semantic processes (Rolando et al., 2019). In line with the above, in Bolivia, Mendoza, (2021) concludes in his research that the results obtained by the students evaluated finally expose a clear difficulty in the ability to interpret texts (Mendoza Machado & Mendoza Machado, 2021).

A Colombian study shows in its article that after an intervention process through reading workshops, only 5% of the participants presented an improvement in their textual comprehension, considering that they were able to answer literal and inferential questions, which has a negative impact on text comprehension. The authors state that, the reading act to comprehend cannot be superficial. It must be an active and exploratory activity, where a connection is made with knowledge already acquired, and thus contribute new ideas that are important and meaningful to the reader (Barrera et al., 2018). Similar research made in Bogotá, which addresses the factors that cause difficulties in reading comprehension, found after the evaluation of reading processes with the Prolec-R battery, that most of the children had difficulties in understanding texts, but with few marked errors in the simple sentences comprehension (Castellanos Ortiz & Guataquira Bernal, 2020).

It is important to note that a fundamental part of reading comprehension, as a semantic process, emerges in the words meaning knowledge, so it is important that schools use more consciously the explicit teaching of vocabulary, considering that, possibly, the difficulties that infants experience during constructing meaning process would be linked to the lack of knowledge of the terms or words used in the text, and the deficient or vague understanding they have about the topic to be read. This agrees with Susana-Figueroa and Gallego- Ortega, 2017, who state that a greater involvement of the teacher in this task is needed, since an explicit teaching of vocabulary would increase the linguistic skills linked to the reading and writing processes. Likewise, Canet, Burin, Andrés, & Urquijo, 2013, indicates that the extent of a child's vocabulary could limit the text comprehension when it contains words that the

child does not know. In fact, children with comprehension difficulties may show difficulties at this level (Sepúlveda & Ortega, 2018).

At a general level, throughout several investigations over the years, it is evident that reading and writing levels are worrisome; that is, people are identified who do not understand what they read and who find it difficult to make themselves understood through writing, who have difficulties interpreting implicit and complementary meanings, and who lack elements of analysis and do not differentiate between an argument and a manipulation" (Velasco Gómez, 2018). Characterizing this type of skills allows us to particularly identify the population group that requires an intervention that eliminates the difficulties and manages to enhance the skills when it comes to understanding what is read.

## 5. CONCLUSION

The study characterizes the text comprehension and sentence comprehension skills of children in third and fourth grades, aged between 8 and 9 years, in a primary school. The findings show that more than half of the population evaluated had an inferior performance in the semantic processes contemplated by the test used, since they presented notable deficiencies when it came to understanding sentences and texts in most of the stimuli presented. It is important to highlight that, in the sample studied, most of the 8-year-old children (72.7%) showed few skills in the evaluated processes.

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