

Conociendo Mis Logros



MINISTERIO
DE EDUCACIÓN

PRUEBAS DIAGNÓSTICAS

Informe de resultados 2024



Para estudiantes desde 3.º Grado
hasta 2.º Año de Bachillerato

Credits

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Presentation

The “Knowing My Achievements” tests are an initiative of the Ministry of Education, which seeks to identify the achievement of the indicators established in the current national curriculum, in order to support educational processes in the classroom.

This is an assessment that provides information on the state of learning at the school and grade level. It is scheduled at two points in the academic year. The first application, called the Diagnostic Assessment “Knowing My Achievements,” is carried out at the beginning of the school year and allows for the identification of the learning with which students begin their new academic grade. The second, called simply “Knowing My Achievements,” is applied at the end of the school year and provides information about the level to which students have developed the skills required in the subjects evaluated.

On this occasion, information is presented on the results obtained from the first application in 2024, with the purpose of having institutions reflect on the effectiveness of their practices based on the strengths and challenges in learning and, at the same time, have inputs for the Educational Success Plan that is implemented in the school year.

Introduction

This document presents the results of the first application of the 2024 “Knowing My Achievements” tests, an initiative of the Ministry of Education aimed at evaluating the achievement of the indicators established in the current national curriculum.

These tests, applied to students in Basic and Secondary Education, aim to provide a clear view of the state of learning, both at the educational center and grade level, in order to support and improve educational processes in the classroom.

The Diagnostic Assessment “Knowing My Achievements,” conducted at the beginning of the school year, allows students to identify the prior learning with which they begin their new academic year.

This report presents the results of the first application in 2024, providing educational institutions with detailed information to facilitate reflection on the effectiveness of their pedagogical practices. The results presented here will allow us to identify strengths and challenges in student learning, providing valuable input for the development and adjustment of the Educational Success Plan that is implemented throughout the school year.

This document is addressed to teachers, students and school principals, as well as to pedagogical managers and other people who are interested in the topic of standardized assessments. It is structured in the following sections: description of the evaluation process, which discusses the general framework of the assessment; application formats, which describe the alternatives for accessing the test that were offered to the student population; then, statistics on student participation are presented, presenting analysis by area, department and sex.

In addition, there is a section on the analysis of results by subject, which describes and reflects on the strengths and challenges found in the evaluation. An example of the results reports that were sent to the educational centers and a guide with guidelines for their use are also presented.

To conclude the document, a description of Mathematics Educational Research is made and a comprehensive view is provided of the advances and areas of improvement in education, identified from this research.

1. Description of the evaluation process

The evaluation process "Knowing My Achievements" is a formative evaluation through which the knowledge and cognitive skills developed in the basic subjects by students from Third Grade to Second Year of Secondary Education are explored.

Its implementation allows educational centers to:

- Have valid and reliable information, based on a standardized instrument, on the strengths and challenges in the learning of their students, to support educational processes in the classroom.
- Contribute to the assessment culture, which involves knowledge about the type of information generated through assessments, how to analyze it and how to use it to carry out actions to improve learning.

Due to their formative nature, the results of diagnostic tests have no consequences on the academic results of students.

In the first edition in 2024, the test evaluated theoretical and cognitive dimensions, representative of the different areas of knowledge and achievement indicators established in the current national curriculum for the subjects of Mathematics, Social Studies, Natural Sciences, Language and Literature.

Students were faced with different problematic situations that required the application of skills, procedures and attitudes, as well as the ability to associate learning with different contexts.

The tests were organized in booklets that corresponded to the subjects evaluated, that is, one booklet for each subject. The items were multiple choice where students had to choose the answer from several options presented to them.

2. Application formats

The test was offered to the population in two formats: online and printed.

Online test

To complete the evaluation in the online format, students entered the link <https://evaluaciones.edu.sv/login>, then entered their username and password. This way they had access to the evaluation instruments.

Printed proof

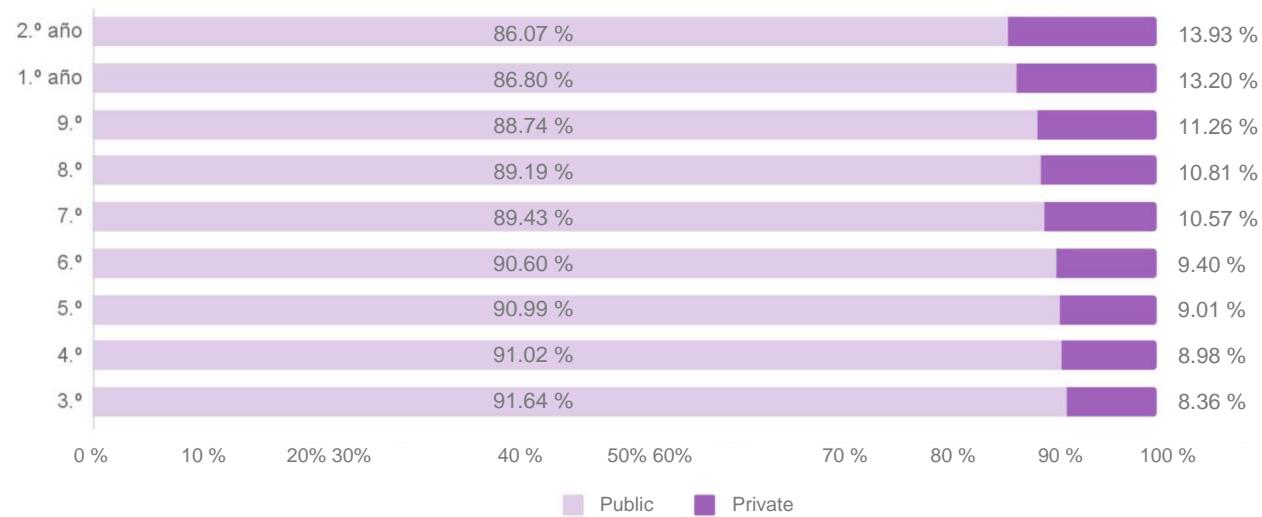
The delivery of tests in printed format was facilitated for the schools that required them. The delivery was made through the departmental education offices. The Pedagogical Managers were in charge of this distribution.

3. Participation

In the application of the diagnostic tests Knowing My Achievements 2024, there was a total participation of 677,730 students, which represents approximately 85% of the enrollment.

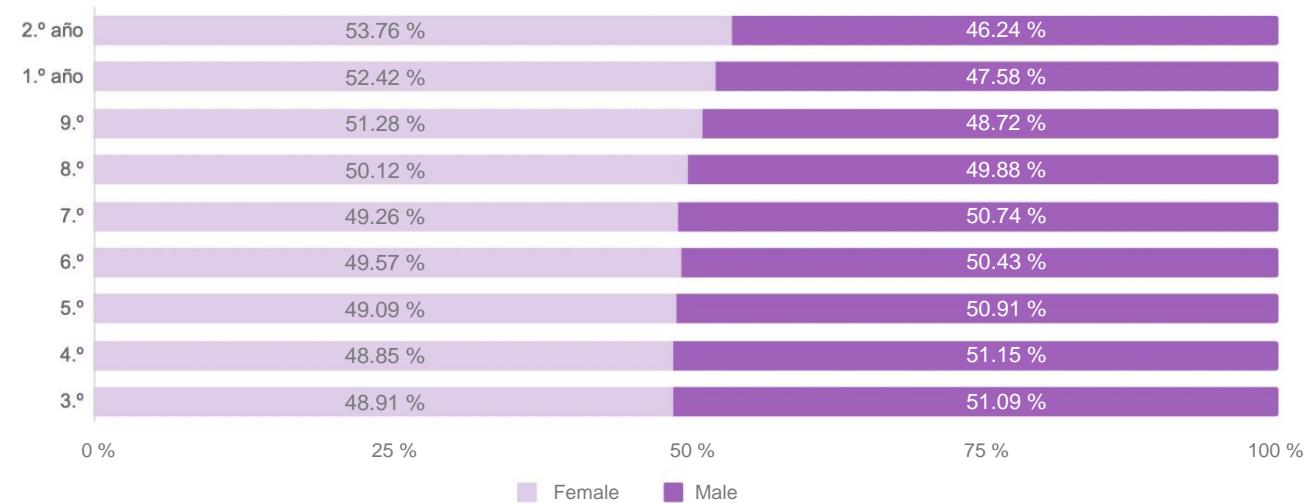
Participation by grade and sector is presented below.

Chart 1. Distribution of participation by sector and grade



The distribution of participants by sex is presented below, in each of the grades evaluated.

Chart 2. Distribution of participation by sex and grade



It is observed that, as the school grade increases, there is a greater presence of female students.

The following table shows student participation by grade and by each of the departments, as well as the percentage corresponding to the registered enrollment.

Table 1. Student participation by grades and departments

Departments	Third Grade		Fourth Grade		Fifth Grade		Sixth Grade	
	Participants	Percentage	Participants	Percentage	Participants	Percentage	Participants	Percentage
Ahuachapán	5,854	88.78 %	5,735	89.79 %	5,573	89.57 %	5,306	88.58 %
Saint Anne	8,662	90.77 %	8,142	90.35 %	7,689	90.18 %	7,797	90.02 %
Sonsonate	8,228	90.30 %	7,814	89.46 %	7,374	90.82 %	7,275	88.59 %
Chalatenango	2,768	87.90 %	2,803	88.45 %	2,837	89.13 %	2,683	87.39 %
Freedom	10,294	86.75 %	9,929	85.86 %	9,907	88.14 %	9,446	83.41 %
San Salvador	20,048	90.59 %	20,304	90.76 %	19,111	89.24 %	19,582	87.55 %
Cuscatlan	3,822	88.90 %	3,851	89.98 %	3,670	89.25 %	3,673	89.06 %
Peace	5,024	90.69 %	5,058	90.26 %	5,056	92.03 %	5,004	90.18 %
Cabins	2,648	91.40 %	2,701	90.27 %	2,649	90.60 %	2,624	89.92 %
Saint Vincent	2,532	90.69 %	2,578	90.90 %	2,646	91.27 %	2,631	90.23 %
Usulutan	5,441	84.29 %	5,166	85.28 %	5,157	88.17 %	5,147	86.36 %
Saint Michael	7,693	90.03 %	6,957	90.55 %	6,906	90.52 %	6,638	87.22 %
Morazan	3,254	89.91 %	2,995	90.10 %	2,985	91.06 %	2,816	87.26 %
The Union	3,904	87.47 %	3,602	86.52 %	3,734	87.63 %	3,589	84.85 %
National	90,172	89.27 %	87,635	89.26 %	85,294	89.64 %	84,211	87.57 %

Departments	Seventh Grade		Eighth Grade		Ninth Grade	
	Participants	Percentage	Participants	Percentage	Participants	Percentage
Ahuachapán	5,103	89.60 %	4,802	87.61 %	4,273	87.96 %
Saint Anne	7,767	89.25 %	7,244	89.06 %	6,343	88.69 %
Sonsonate	7,084	88.49 %	6,488	87.45 %	5,917	86.12 %
Chalatenango	2,504	84.77 %	2,313	86.86 %	2,001	87.00 %
Freedom	9,266	83.39 %	8,866	84.06 %	8,531	84.31 %
San Salvador	19,209	86.59 %	18,469	85.55 %	18,034	85.78 %
Cuscatlan	3,748	85.34 %	3,419	86.21 %	3,228	86.10 %
Peace	4,661	88.28 %	4,529	89.36 %	4,374	89.14 %
Cabins	2,441	89.68 %	2,236	89.91 %	1,932	87.22 %
Saint Vincent	2,637	91.56 %	2,297	89.24 %	2,147	89.95 %
Usulutan	4,749	84.13 %	4,470	86.39 %	4,291	88.17 %
Saint Michael	6,208	87.07 %	5,929	86.83 %	5,600	88.69 %
Morazan	2,691	85.05 %	2,466	86.68 %	2,319	86.98 %
The Union	3,237	85.03 %	3,045	86.46 %	2,724	85.71 %
National	81,305	86.80 %	76,573	86.72 %	71,714	86.81 %

Departments	First Year of High School		Second Year of High School	
	Participants	Percentage	Participants	Percentage
Ahuachapán	3,011	77.30 %	2,563	75.94 %
Saint Anne	4,981	70.70 %	4,182	73.97 %
Sonsonate	4,372	72.89 %	3,622	70.30 %
Chalatenango	1,649	79.09 %	1,355	77.96 %
Freedom	6,981	75.51 %	6,076	77.30 %
San Salvador	14,114	65.19 %	12,427	65.96 %
Cuscatlan	2,184	78.36 %	2,031	79.71 %
Peace	3,065	74.45 %	2,524	72.16 %
Cabins	1,235	80.82 %	1,035	78.23 %
Saint Vincent	1,694	81.80 %	1,353	85.20 %
Usulutan	3,172	78.28 %	2,813	79.40 %
Saint Michael	4,266	80.40 %	3,777	79.84 %
Morazan	1,711	74.26 %	1,446	72.52 %
The Union	1,702	73.81 %	1,485	72.97 %
National	54,137	72.77 %	46,689	73.09 %

Source: Ministry of Education – National Directorate of Educational Evaluation.

As can be seen in the tables, the Fifth Grade application had the highest percentage of participation, while the First Year of High School had the lowest percentage.

These phenomena can be due to different factors, however, each department knows the causes and the strategies used in the application.

4. Evaluation framework

Diagnostic tests investigate the fundamental learning achievements that students require when starting their new school year. In this sense, some concepts are presented that are essential for the construction and understanding of the evaluation instruments.

What is meant by learning achievement?

According to Pimienta (2008), in a broad sense, when talking about learning, we refer to the set of products obtained by students as a result of the impact of education¹, specifically we talk about declarative knowledge, that is, facts and concepts; and procedural knowledge, such as skills and abilities; therefore, a learning achievement is defined as: "a manifest evidence in situations close to the environment of the knowledge, skills and capacities achieved by the student, through the teaching and learning process, that is, a learning achievement is constituted by knowledge and know-how."

Based on the above, to investigate learning achievements, two dimensions are defined that make up the structure of the reagents and the instruments.

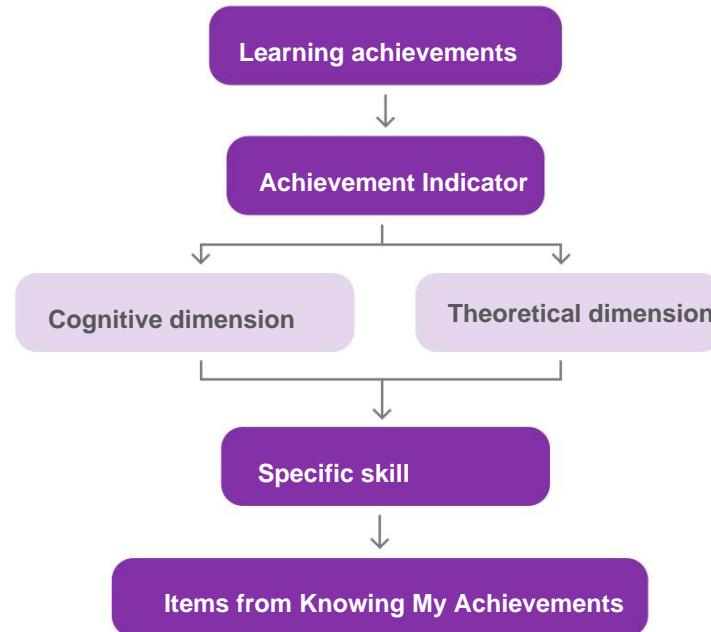
Dimensions that evaluate the tests

Theoretical dimension	It determines the expected knowledge based on thematic axes that are organized in accordance with the current national curriculum for each subject and educational level.
Cognitive dimension	Concept of Cognitive Psychology that studies thinking skills and emphasizes that the subject not only acquires the contents themselves, but also learns the process used to do so.

The assessment design is based on the achievement indicators of the current study programs, which have a theoretical and a cognitive component. In some cases, these components are very broad and it is necessary to define them and present them as a specific task that the student is expected to perform. This is called a specific skill, which also responds to a cognitive and a theoretical aspect.

¹Pimienta Prieto, JH (2008). *Assessment of learning, a competency-based approach*. Leticia Gaona Figueroa.

The following diagram shows the relationship between the elements considered in the design of the Knowing My Achievements test, starting with the learning achievement that is investigated from a set of achievement indicators established in the current curriculum, in which the cognitive and theoretical part that the student is expected to achieve is identified, for which it is delimited to a specific skill or task that the item will evaluate.



Based on the above, it is clear that diagnostic tests are made up of multiple choice items, which evaluate skills that respond to cognitive and theoretical dimensions, representative of the different areas of knowledge and achievement indicators established in the current national curriculum.

Below are the assessment frameworks for the subjects, which describe the cognitive and theoretical dimensions that are explored, as well as some of the skills that students are expected to have developed. In addition, model assessment items are presented with a description of the pedagogical and curricular elements of each one.

5. Results and analysis by subject

5.1. Mathematics

The subject of Mathematics aims to develop cognitive skills and mathematical knowledge in students that will be useful in the academic field and in environmental situations, since, in the teaching-learning process, logical reasoning is encouraged through problem solving, therefore, it provides tools that allow the formation of critical citizens.

In this sense, solving mathematical problems is at the heart of the development of classroom activities, as it presents realistic situations that seek to apply mathematics to the environment and propose routine exercises that require the application of basic operations, as well as the ability to model and interpret situations symbolically and manipulate them, enhance logical reasoning, the ability to understand and analyze information in different representations, in addition to the use of formulas.

Based on the above, the Diagnostic Evaluation "Knowing My Achievements 2024" in the Mathematics subject aims to investigate the level of achievement reached by students, regarding knowledge and cognitive skills developed at the end of the immediately previous grade, therefore, the evaluation is characterized by proposing specific tasks that allow exploring the cognitive dimensions of knowledge and application. Likewise, the design of these instruments respond to the prioritized contents and achievement indicators of 2023 of the current study program, as well as to the curricular focus of the subject: problem solving; Therefore, common practice exercises are proposed in the classroom, contexts close to the students or recreated situations in order to transversally develop the competencies: Logical-mathematical Reasoning, Communication with Mathematical Language and the Application of Mathematics to the environment.

The Test, therefore, is an instrument that will allow teachers, based on the results, to make an approximation of the levels of achievement reached in the subject and identify the challenges as opportunities for improvement, that is, this evaluation is a support to plan the teaching-learning process in Mathematics.

Evaluated dimensions

Cognitive

The knowledge and skills developed in the subject were explored in two cognitive dimensions, as defined below:

Knowledge: Students are expected to remember and understand concepts, procedures, mathematical definitions, recognize formulas and identify properties that allow them to solve exercises and situations. In addition, they perform routine algorithmic procedures, as well as retrieve information from different graphical representations.

Application: Contextualized situations are proposed, close to reality and routine exercises, that is, those that are known to the student from common practice in the classroom, in which mathematical tools are used, mathematical knowledge of concepts and procedures is applied, processes are developed, calculations are performed, and graphs are interpreted, in such a way that an answer is provided to what is posed. It should be noted that in this dimension the problems can be purely mathematical.

The theoretical and cognitive dimensions explored in the study are described below.

Diagnostic Assessment, from the Third Grade of Basic Education to the Second Year of Secondary Education, with the respective percentages of success by domain:

Third Grade

Theoretical dimensions		Hit percentage
1. Arithmetic	Comparing and reading natural numbers Investigate skills developed by students when comparing natural numbers and identifying the writing of quantities up to three digits.	81.50 %
2. Arithmetic	Operations with natural numbers Explore students' knowledge of operations with natural numbers: addition, subtraction and multiplication.	65.62 %
3. Geometry	Investigate the skills developed by students when identifying triangles and quadrilaterals by recognizing the characteristics that represent them.	52.00 %
4. Measures	Assess students' learning achievement by making conversions to establish comparisons between units of length measurement and calculating the start or end time of an event, given the duration period in exact hours.	59.50 %
5. Statistics	Explore students' knowledge by organizing and reading data represented in graphs.	74.00 %

The theoretical dimensions that reflect a greater understanding are the area of *Arithmetic* in the comparison and reading of natural numbers, as well as the development of the algorithm of basic operations; followed by *Statistics* in the reading of graphs; however, in *Geometry* there is a lower performance, although it is not as significant, since it is above fifty percent.

Cognitive dimensions	
Knowledge	66.27 %
Application	64.89 %

The cognitive dimension with the highest percentage of correct answers is *Knowledge*, although the difference with *Application* is minimal, in the grade evaluated the students show the development of skills such as: understanding, calculating, comparing and remembering mathematical concepts among others that are essential to transcend to the next cognitive level.

Based on the above results in the two dimensions evaluated, the main findings are presented.

Strengths

- Associate the reading and writing of natural numbers in different situations.
- Solve different situations by performing the addition algorithm with numbers natural numbers of up to three figures without carrying.

Challenges

- Perform the algorithm for subtracting natural numbers (borrowing), since they determine the result without considering the borrowing of the positional value. Also, in some situations they incorrectly interpret the operation to be performed and perform the multiplication as addition.
- Recognize flat geometric figures, such as triangles and quadrilaterals, since they confuse curved line segments (not straight lines) as sides of these.

Fourth Grade

Theoretical dimensions		Hit percentage
1. Arithmetic	Operations with natural numbers Evaluates students' mastery of the four basic operations: addition, subtraction, multiplication and division of natural numbers.	62.15 %
2. Arithmetic	Order, read, write natural numbers Explore students' knowledge in comparing, reading and writing four-digit numbers.	65.33 %
3. Geometry	Explore the cognitive skills developed by students when classifying triangles by the length of their sides and identifying squares from the characteristics that represent them.	57.24 %
4. Statistics	Investigate the level of achievement reached by students by retrieving information from vertical bar graphs; in addition to relating the information represented in frequency tables.	64.99 %

The cognitive dimension that shows the highest percentage of correct answers is *Arithmetic*, in those items that explore the students' skills in the contents of order, reading and writing of natural numbers; however, the results reflect that *Geometry* is the area with the lowest percentage of correct answers, however, it is above fifty percent, demonstrating that the population evaluated managed to correctly answer, on average, more than half of the reagents that investigate the topics related to this content block.

Cognitive dimensions	
Knowledge	62.26 %
Application	58.62 %

Based on the results, it was found that the *Knowledge dimension* achieved the highest percentage of correct answers, showing that students have developed the skills explored at this level. Likewise, in the *Application dimension*, the percentage of correct answers remains above fifty percent, which shows that students have managed to solve the situations posed, thus demonstrating their understanding of the contents of this grade by using different mathematical concepts and procedures to solve problems.

Based on the above results in the two dimensions evaluated, the main findings are presented.

Strengths

- Recognize the location of four-digit natural numbers on the number line, since they demonstrated understanding the order of quantities in ascending order.
- Solve different problems, carrying out the addition algorithm with natural numbers of up to four digits, once to the tens, hundreds or thousands units.

Challenges

- Identify the characteristics of a square-based prism, since they do not measure the number of faces it has when only one side is shown.
- Relate the data presented in a vertical bar graph when the scale is greater than 1, with the frequency table that represents them, since it was shown that they only recover the specific information from the graph without associating it with any other element.

Fifth Grade

Theoretical dimensions		Hit percentage
1. Arithmetic	Operations with natural numbers Explore the cognitive skills developed by students on operations with natural numbers: addition, subtraction, multiplication and division.	62.38%
2. Arithmetic	Addition and division of decimal numbers Investigate students' knowledge by performing operations that involve using addition and division with decimal numbers.	53.18%
3. Arithmetic	Addition, subtraction, comparison and equivalence with fractions Investigate the learning achievement of students when performing addition and subtraction, as well as comparison with homogeneous fractions and equivalence of fractions.	38.02%
4. Geometry	It assesses students' cognitive skills by solving situations that involve calculating the areas of squares and rectangles, identifying the parallelism of the sides of geometric figures, recognizing the characteristics of rectangular prisms, and classifying angles.	39.37%

The theoretical dimension with the highest percentage of correct answers is *Arithmetic*, which showed an understanding of the development of algorithms to perform calculations with natural numbers and decimals; however, there were difficulties in comparing and finding equivalences with fractions. Likewise, in *Geometry*, confusion was evident with the terminology perimeter and area, which is why there were deficiencies in solving situations related to this subject.

Cognitive domain	
Knowledge	53.68%
Application	43.35%

According to the results, it can be seen that the *Knowledge domain* has a higher percentage of correct answers, so it can be interpreted that students have developed skills such as understanding, recognizing, calculating, among others explored at this level by remembering mathematical concepts and developing different elementary algorithms, while in the *Application domain* it reflects that the population evaluated got fewer items right, since in this domain more complex situations are explored that demand the use of mathematical tools and procedures to solve the question posed.

Based on the above results in the two dimensions evaluated, the main findings are presented.

Strengths

- Carry out basic operations with natural numbers to solve various situations, so they solve sums of up to four digits, carrying them to the next positional value, perform the product of two three-digit quantities or by two, carrying them to the ten or hundred, and develop divisions without remainder, when the tens of the dividend are greater than the divisor.
- Solve situations in which you must develop additions and divisions with numbers decimals with different numbers of digits.

Challenges

- Calculate the area of a rectangle, square or composite figures, showing difficulties in understanding the concept of area and confusing it with perimeter, since this was the most frequent error.
- Compare two homogeneous fractions using the terminology “greater than, less than or equal to”, which shows difficulties in relating the positional value of the quantities presented. Likewise, problems were evident in finding equivalent fractions through the amplification process.

Sixth Grade

Theoretical dimensions		Hit percentage
1. Arithmetic	<p>Operations with decimal numbers and number of times</p> <p>Explore students' knowledge about multiplication and division of decimal numbers by natural numbers and decimals, quantity to compare, base and times with decimal numbers.</p>	53.99 %
2. Arithmetic	<p>Budgeting and combined operations</p> <p>It investigates students' cognitive abilities to solve combined operations with three operators, applying the hierarchy of operations, as well as preparing budgets using multiplication when there are repeated products.</p>	51.57 %
3. Arithmetic	<p>Multiples and divisors</p> <p>Investigate the skills developed by students to find the least common multiple of two numbers, recognize the divisors of a number, and find the greatest common divisor of two numbers.</p>	49.42 %
4. Geometry	Assesses students' learning achievement when calculating areas of quadrilaterals and triangles.	37.23 %
5. Statistics	Investigate skills developed by students when interpreting and representing data using line graphs.	49.66 %

The theoretical dimension with the highest percentage of correct answers is *Arithmetic*, which involves carrying out basic operations with decimal numbers and calculating quantities to be compared, in purely mathematical or contextualized problems, also in situations that imply the use of operations for the preparation of budgets. On the contrary, in *Geometry* the lowest performance is presented, evidenced in the percentage of correct answers in this one, which evaluates the use of properties of geometric figures, calculation of area, perimeter, among other elements.

Cognitive dimension	
Knowledge	54.86 %
Application	43.30 %

The data show that the cognitive dimension of *Knowledge* shows a higher percentage of correct answers, in which different skills have been evaluated for solving contextualized exercises and problems that require the development of elementary operations, as well as retrieving information in different situations.

Based on the above results in the two dimensions evaluated, the main findings are presented.

Strengths

- Solve different situations by carrying out the multiplication and division algorithm with two or three-digit natural numbers and decimal numbers up to tenths or hundredths.
- Relate the number of times that another represents in situations where the quantity to be compared is greater or less than one to solve different problems.

Challenges

- Interpret data presented in line graphs, since they most frequently confused the data with the section of the graph with the greatest change in slope.
- Calculate the elements in geometric figures by applying their properties, because they partially remember the formula for the area of a triangle by forgetting to divide by two, and in other cases they confuse $b \times h$ as $b + h$.

Seventh Grade

Theoretical dimensions		Hit percentage
1. Arithmetic	Operations with fractions Explore students' knowledge of multiplication and division of fractions by fractions and natural numbers.	44.99 %
2. Arithmetic	Expressions with addition, subtraction and multiplication Explore students' cognitive abilities to determine addition and multiplication using variables.	29.14 %
3. Arithmetic	Proportionality and conversions Assesses students' learning achievement in recognizing equivalent ratios, solving problems about proportions with unknown data, and solving situations about directly proportional quantities.	49.18 %
4. Arithmetic	Percentages Investigate the skills developed by students to determine the price of an item that has a discount percentage.	35.56 %
5. Geometry	Assesses students' mastery in finding the area of circular regions, calculating volumes of rectangular prisms and composite geometric bodies, as well as determining symmetry in geometric figures.	56.32 %
6. Statistics	It investigates students' cognitive abilities to calculate the arithmetic mean in simple data.	27.00 %

In terms of theoretical dimensions, the highest student performance was in *Geometry*, followed by *Arithmetic* in conversions and use of proportionality; however, in expressions that involve developing the algorithm for addition, subtraction and multiplication they showed lower performance, as well as in *Statistics*.

Cognitive dimension	
Knowledge	45.10 %
Application	47.63 %

The results show a similar percentage of success in the cognitive dimension of *Knowledge* and *Application*, and the average of these does not exceed 50%.

Based on the above results in the two dimensions evaluated, the main findings are presented.

Strengths

- Identify flat geometric figures that meet the property of having one or more several axes of symmetry.
- Identify the expression that represents the direct proportionality relationship in different situations.

Challenges

- Calculate the arithmetic mean for simple data, because they associate this as the semi-sum of the elements of the data set.
- Carry out the algorithm for dividing fractions, since they confuse the process of this, such as the product of the numerators between the product of the denominators.

Eighth Grade

Theoretical dimensions		Hit percentage
1. Numbers	<p>Order relationship</p> <p>Evaluate the learning achievement of students when comparing positive, negative numbers and zero to establish an order relationship between them, as well as recognizing the absolute value of a given number.</p>	45.74 %
2. Numbers	<p>Operations with positive and negative numbers</p> <p>Investigate the level of achievement reached by students when adding, subtracting and multiplying numbers with different signs, as well as operations that combine addition, subtraction, multiplication and division.</p>	47.86 %
3. Numbers	<p>Multiples and divisors</p> <p>Evaluate students' cognitive skills by solving situations that involve calculating the least common multiple and greatest common divisor.</p>	48.78 %
4. Algebra	<p>Operations with algebraic expressions</p> <p>Evaluates the student's mastery in representing the power of an algebraic expression and performing multiplications with one or two terms by a number.</p>	52.07 %
5. Algebra	<p>Communication with symbols</p> <p>It studies the students' abilities to generalize a numerical pattern of an unknown quantity, translate expressions from colloquial language to algebraic language, and calculate the numerical value of an algebraic expression with more than one variable.</p>	49.95 %
6. Algebra	<p>First degree equations</p> <p>Explore students' learning achievement when solving first-degree equations that are solved using a property of equality.</p>	44.00 %
7. Geometry	<p>Investigate the mastery achieved by students in the calculation of areas and surfaces in geometric bodies.</p>	16.05 %

8. Functions	Explore students' skills in representing direct proportionality relationships.	41.82 %
9. Statistics	Investigate the students' understanding of the information in pie charts.	41.30 %

The theoretical dimensions where the greatest deficiencies are evident are in *Geometry*, reflecting poor performance when calculating the surface area of geometric bodies, followed by *Statistics* in situations that involve the interpretation of information presented in graphs.

Cognitive dimension	
Knowledge	44.90 %
Application	46.62 %

The results show that the cognitive dimension with the highest percentage of correct answers is *Application*, in which better performance is observed in problems that require the use of skills corresponding to this, for example: relating, associating, formulating, among others. In addition, the difference with *Knowledge* is minimal, so the level achieved in each dimension has been similar.

Based on the above results in the two dimensions evaluated, the main findings are presented.

Strengths

- Perform the product of algebraic expressions in which it is required to represent variables as their power and multiply a monomial by a number.
- Establish the expression that models a situation presented in colloquial language.

Challenges

- Calculate the surface area of geometric bodies, because they confuse the concept of this with that of volume.
- Interpret information represented in a pie chart, as they determine the sector with the largest area as a solution to the requested task.

Ninth Grade

	Theoretical dimensions	Hit percentage
1. Algebra	Algebraic manipulation in operations with polynomials is explored, as well as the resolution and formulation, in contextualized situations, of systems of first-degree equations with two unknowns.	46.45 %
2. Statistics	Study knowledge about the calculation of the arithmetic mean of grouped data in contextualized exercises, as well as the interpretation of information represented in statistical graphs.	42.33 %
3. Functions	Evaluate the linear function by identifying the elements in the graphical and algebraic representation, in addition to modeling situations by applying its concepts.	44.79 %
4. Geometry	Explore, through different contexts, the notions of congruence of geometric figures, measurement of angles in a polygon, diagonals of a parallelogram and angles between parallel lines. In addition, investigate the volume of rectangular prisms and cylinders.	43.35 %

The theoretical dimension with the lowest percentage of correct answers was *Statistics*, with a minimal difference with *Geometry*, in which difficulties were evident in calculating the measures of central tendency, as well as in the application of theorems and properties on geometric figures to determine an element of these.

Cognitive dimension	
Knowledge	41.94 %
Application	44.85 %

The results show a higher percentage of correct answers in the skills belonging to the cognitive dimension of *Application*, since it was observed that they manage to solve problems that involve the use of skills such as: identifying, relating, classifying, among others. Therefore, it is interpreted that in this grade, the contents evaluated with an intermediate level of difficulty show favorable results.

Based on the above results in the two dimensions evaluated, the main findings are presented.

Strengths

- Perform basic operations with polynomials by applying algorithms and properties that allow to reduce the expression.
- Represent a situation using linear equations, starting by identifying the variables and establishing the expression that models it, in addition, applying algebraic processes to determine the solutions that satisfy them.

Challenges

- Apply properties and theorems to geometric figures, according to their characteristics, to calculate the measurement of an element, since they are limited to recovering information from the context.
- Determine the variation of the values of a linear function on the y-axis by delimiting the domain, given that they identify the points of intersection with the axes, as the variation.

First Year of High School

Theoretical dimensions		Hit percentage
1. Algebra	Explore algebraic manipulation in the product, factorization and calculation of the numerical value of polynomials, as well as the resolution of quadratic equations by different methods, their application to represent and solve everyday situations.	37.12 %
2. Functions	Investigate the learning achievement of students to associate the graphical and algebraic representation of a quadratic function, by identifying the characteristics of these in different problems.	31.47 %
3. Geometry	Explore students' knowledge by applying similarity criteria in geometric figures, as well as solving situations through the use of the Pythagorean Theorem.	36.05 %
4. Numbers	Assesses students' abilities to perform operations with square roots in different contexts.	41.56 %

The results show that most students had problems in the theoretical dimension of *Functions*, since, based on the equation of a quadratic function, they cannot identify dilation or contraction. Likewise, difficulties were found when applying similarity criteria in geometric figures.

Cognitive dimension	
Knowledge	35.98 %
Application	35.52 %

The results show a similar percentage of success in the cognitive dimensions of *Application* and *Knowledge*, therefore, it can be interpreted that the contents evaluated in each one obtain a similar scope in relation to the development of skills such as: observe, remember, recognize, as well as in solving problems that involve identifying, classifying, representing, among others.

Based on the above results in the two dimensions evaluated, the main findings are presented.

Strengths

- Perform operations with square roots of numbers by using the distributive property of multiplication over addition, as well as solve contextualized problems based on their definition.
- Solve contextualized situations by posing quadratic equations, where they remember the expression to calculate the area of rectangular figures and thus determine their dimensions.

Challenges

- Identify the range of a quadratic function in different representations, since they calculate the range by evaluating the function at the ends of the restricted domain and using them as ends of the range interval, that is, the student does not understand that the function has absolute minimums or maximums; likewise, it is evident that in the recognition of graphics they recover information from the elements provided.
- Apply similarity criteria in geometric figures, given that they identify the corresponding sides according to the position, without verifying their correspondence.

Second Year of High School

Theoretical dimensions		Hit percentage
1. Numbers	Assesses students' skills in associating different interval representations in different situations.	37.50 %
2. Algebra	It investigates students' ability to solve problems with polynomials, as well as to apply the algorithm to perform basic operations with complex numbers in routine exercises. In addition, it assesses the ability to remember the concept of the discriminant in a quadratic equation, as well as the mathematical resolution and interpretation of linear inequalities in different problems.	35.86 %
3. Functions	Explore students' ability to solve problems about the quadratic function that involves associating different representations, identifying the range, and determining the solution to inequalities graphically and algebraically.	44.06 %
4. Trigonometry	It investigates the learning achievement of students in solving situations on oblique triangles, trigonometric ratios in right triangles in different contexts, as well as calculating the solutions of a trigonometric equation.	36.81 %

The results show that the theoretical dimension with the greatest difficulty for students is *trigonometry*, since, when factoring trigonometric equations, they show confusion of the signs in the factors, and to calculate the area of oblique triangles they use the formula for the area of a right triangle and replace the data with the lengths of the sides, without calculating the height.

Cognitive dimension	
Knowledge	38.42 %
Application	36.89 %

It is evident that students present a higher percentage of correct answers in the items of the cognitive dimension of *Knowledge*, since, in the resolution of problems that involve the use of skills of observing, recognizing, understanding and calculating, favorable results were obtained in relation to the development of these.

Based on the above results in the two dimensions evaluated, the main findings are presented.

Strengths

- Carry out algebraic processes to solve operations with polynomials and reduce expressions, as well as determine the real or complex solutions of the equations.
- Determine the interval in which a linear inequality is satisfied, using the development of algebraic processes.

Challenge

- Perform operations with complex numbers, since in the quotient they replace the divisor with its conjugate, also, they relate the real part and the imaginary part of the dividend and divisor; likewise, in the product they reduce as similar terms to those that have the imaginary unit by taking into account the exponents of i.
- Calculate the solutions of a trigonometric equation, since, when factoring, the signs in the factors are exchanged.

Final considerations of the subject

According to the results, it is evident that the cognitive dimension in which the highest percentage of correct answers was obtained is *Knowledge*, which involves the development of fundamental skills for problem solving such as: understanding, calculating, recognizing, retrieving information, among others, which are the bases to transcend to the immediate dimension of *Application*, in which students are required to use concepts, procedures, properties, theorems, among other mathematical tools, in situations that are often very common, being routine and of common practice in the classroom.

In some grades, such as 7th, 8th, and 9th, the *Application dimension* has a higher percentage of correct answers than the *Knowledge dimension*, which shows that students are able to solve more complex situations.

In general, it is important to highlight that the population evaluated shows better performance in the topics of Arithmetic: order relations, reading, writing of natural numbers, basic operations in different numerical sets, as is the case of 3rd and 4th Grades. Likewise, in Secondary Education, some of the Algebra contents, it is noted that the highest performance of the students is in performing ~~operations~~ with polynomials, solving inequalities and equations.

On the other hand, it was identified that students have difficulties in understanding the contents of the theoretical dimension of Geometry from Basic Education and related areas such as Trigonometry in Secondary Education, since it is noted that there are deficiencies in the appropriation of concepts, application of theorems, classification of figures and geometric bodies according to their characteristics, calculation of areas and volumes of prisms.

In the subject, it is evident that there is an inversely proportional trend, in which as the educational level increases, the percentage of correct answers in the theoretical and cognitive dimensions decreases, since it can be corroborated, for example, that in 3rd Grade the cognitive dimension of *Knowledge* obtained a percentage of correct answers of 66.27%, while in 2nd Year of Secondary Education it was 38.42%; this same behavior is evident in the common contents of the grades evaluated.

Therefore, it is concluded that the results of this test show a general overview of the learning achievements of the population evaluated and at the same time it is a support for the educational community, which allows to identify conceptual errors of the students, since each one of the distractors fulfills a pedagogical purpose, so it guides the planning for the sake of improvement in the different educational levels, enhancing those skills that are essential bases for the apprehension of the contents established in the current study program from the resolution of problems.

5.2. Social Studies

Assessment in Social Studies intentionally seeks to foster cognitive processes aligned with the theoretical dimensions and achievement indicators established for each grade. These aspects are explored through authentic texts, practical cases, and contextualized situations, which promote the application of a specific set of knowledge and cognitive skills.

As a reference for the evaluation of learning, Bloom's revised taxonomy is used, from which cognitive skills and their hierarchy are taken, transcending learning focused on primary thought processes (memory and evocation) to more complex ones such as understanding and analyzing.

Evaluated dimensions

Cognitive

These refer to thinking skills, which are developed during the formative process and determine the levels of complexity of the items in the tests applied. It is worth mentioning that these skills are common in all grades, but they evolve and manifest themselves differently according to the stage of development of each girl and boy. Each of them is described below.

Comprehension: Students demonstrate the ability to understand when they are able to remember concepts, recognize specific information, identify facts, processes or principles based on a contextualized situation or scenario in which the assessment task is framed, which may be personal, familiar, local or global; for example, when they select a situation or event based on prior knowledge, without this implying the construction of new concepts. In this dimension, remembering knowledge is a cognitive ability prior to the act of understanding.

Analysis: This level encourages critical thinking and prepares students to solve complex problems systematically and thoughtfully by applying interpretation and inference.

Inference, as a process of analysis, occurs when the student is able to identify, from a series of facts or premises, patterns and cause-effect relationships, to reach logical conclusions, for example, when the student identifies in a context situation a pattern of population growth, noting that its increase has been constant, and therefore relates this growth to possible factors such as the decrease in mortality and an increase in birth rate.

It is important to mention that assessment tasks that involve analysis will most likely involve primary level processes, such as remembering or recognizing; for example, if the task requested is to infer the impact of the French Revolution on the independence processes of the Spanish colonies in Central America, the student will recall knowledge such as dates, places, characters, events, among others, and then establish deductions.

Interpretation allows students to convert read information into a new representation. This means that they take the context situation presented in various forms (texts, graphic organizers, or problem situations) and are able to translate it into their own words, apply relevant examples, compare concepts, and explain the relationships between them. This skill goes beyond simply memorizing facts, as it requires students to demonstrate an understanding of the information.

Below are the results from the theoretical and cognitive dimensions explored in the Diagnostic Evaluation "Knowing My Achievements", from the Third Grade of Basic Education to the Second Year of Secondary Education, with the percentages of success by domain:

Third Grade

	Theoretical dimensions	Hit percentage
1. The geographical and sociocultural environment of the locality	<p>The students' ability to identify specific places in the community based on reference points is explored, as well as the social elements of the geographic landscape of the locality. In addition, the economic benefits provided by roads and means of transport are assessed, as well as the importance of respecting pedestrian regulations when travelling on public roads.</p> <p>The items also present contexts where the role played by the main means of social communication and the importance of work in satisfying basic needs are explored.</p>	66.49 %
2. Social and affective moral knowledge of boys and girls in school, family and locality	<p>This dimension explores, from specific contexts, compliance with rules at school and in the community, national symbols as part of national identity, recognition of one's own and others' characteristics, and blood relations with ancestors.</p>	64.82 %

3. Historical development of the town	<p>It raises the notions of temporality in specific situations or contexts of daily life, where the person being evaluated must place events in the past, present or future.</p> <p>On the other hand, the test seeks to diagnose the students' ability to identify customs or traditions practiced by the Salvadoran population as part of the national identity.</p>	69.37 %
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The Third Grade results show, in general, a solid performance in the theoretical dimensions evaluated. Students achieved 66.49% correct answers in *The geographic and sociocultural environment of the town*; 64.82% in *social and affective-moral knowledge of the boy and girl in school, family and community*; and 69.37% in *historical development of the town*. Opportunities for improvement can focus on strengthening social and affective-moral knowledge, since it presents the lowest percentage of the three theoretical dimensions.

Cognitive dimension	
Comprehension	65.99 %
Analysis	67.23 %

In the cognitive dimension, a difference is observed in favor of Analysis with 67% correct answers. This behavior is common in Third Grade, since the contexts evaluated are everyday situations that are familiar to the student.

Based on the above results in the evaluated dimensions, the main findings are presented.

Strengths

- Identify customs or traditions that Salvadoran families practice such as part of the national identity.
- Identify the rules of coexistence based on relationships inherent to school and community life, using this knowledge to strengthen self-esteem and social coexistence.
- Interpret the importance of respecting pedestrian rules when traveling on the road public of the town.

Challenges

- Interpreting blood relationships with their ancestors based on the family tree. This error indicates that students have difficulty distinguishing between paternal and maternal family lines, often confusing the roles of grandparents in the family tree. This finding suggests the need to strengthen the understanding of family relationships in family trees through activities that clarify the difference between maternal and paternal ancestors and reinforce the correct interpretation of these family diagrams.

- Interpret the importance of electronic media from their features. Students have difficulty identifying the specific feature that differentiates electronic media, focusing on general benefits rather than the specific functionality of video calls.

This reveals the need to reinforce learning about the distinctive characteristics of each communication medium, using practical examples that highlight their specific functions.

- Interpret the importance of work in meeting basic needs and the economic insecurity that the lack of work produces in the family. Some students seem not to be focusing on the practical and tangible consequences of unemployment. They are less focused on the immediate economic reality and more on interpretations that do not reflect the urgent financial problems that often arise when a person loses his or her job.

Fourth Grade

Theoretical dimensions	Hit percentage
1. The geographical and sociocultural environment of the locality	<p>It evaluates situations that lead the student to recognize the different means of social communication and identify their educational and guiding functions. In addition, tasks are proposed in which the student must interpret the type of message transmitted by the means of social communication (radio, television, newspapers and the Internet) and infer their advantages and disadvantages.</p>
2. Social and affective moral knowledge of boys and girls in school, family and locality	<p>It explores everyday situations that allow us to recognise the rights and responsibilities of children, both in the family, school and local community. Activities for students range from simple recognition tasks to more complex exercises that involve interpreting problematic situations where rights are violated or contexts that demonstrate their fulfilment.</p>
3. Historical development of the town	<p>In this dimension, the participation and collaboration of families in the activities and improvement of the educational center or community is investigated through cases to determine its importance. In addition, the recognition of the national symbols of El Salvador, the characteristics of an archaeological site, and the identification of personal life events in the immediate, recent, and distant past are explored. Likewise, contexts are presented that lead students to observe and recognize the changes experienced in the community.</p>

These results indicate that students have a moderate knowledge in the theoretical areas evaluated, with a slightly higher performance in the dimension *The geographic and sociocultural environment* with 58.61% correct answers; while the dimension *Social and affective-moral knowledge of the child in school, family and community* reached 52.95%, being this the lowest.

Cognitive dimension	
Comprehension	57.29 %
Analysis	54.23 %

Regarding the cognitive dimension, 57.29% of correct answers were observed in the items that explored basic thinking skills such as Recognizing or Identifying and 54.23% in those items that presented contextual situations with greater cognitive demand for the student (Interpreting or Inferring).

Based on the above results in the evaluated dimensions, the main findings are presented.

Strengths

- Recognize the rights and duties of boys and girls as members of a group in their daily lives.
- Recognize the different means of social communication, advantages and disadvantages and the role of the family in supervising the use of children.
- Recognize the national symbols of El Salvador.

Challenges

- Identifying personal life events in the immediate past, the recent past, and the distant past. This error suggests that students confuse the concepts of immediate and recent past. In this sense, it is important to reinforce teaching about temporal differentiation, helping students to correctly identify personal life events in different periods.
- Identify, based on a problem situation, the rights of children that are violated in the family group. This finding suggests that students have difficulty identifying inequality in the distribution of family responsibilities, which shows the need to reinforce the recognition of children's rights, especially the right to equality, highlighting the importance of a fair distribution of household tasks.
- Interpret the message communicated by the media, especially those presented in news format. The main pedagogical error is the difficulty in critically interpreting the content of the media. This challenge highlights the need to strengthen reading comprehension skills and the ability to identify the main message of the news, especially in sensitive contexts such as animal protection.

Fifth Grade

	Theoretical dimensions	Hit percentage
1. The geographical environment and the Salvadoran reality	<p>It aims to help students recognize the effects of human activities on the relief, climate, flora and fauna of El Salvador, examining both the negative impact of improper waste management and pollution, as well as the benefits of caring for and using natural resources responsibly. It also addresses the advantages and disadvantages of El Salvador's geographical position and the importance of its various landforms.</p>	44.06 %
2. The sociocultural environment in El Salvador	<p>It addresses work situations in order to highlight the importance of employment, especially for people with disabilities, promoting access to work without discrimination. Labor rights in the Constitution of the Republic and their application are analyzed.</p> <p>In addition, the impact of El Salvador's economic sectors on the economy, the relationship between road networks and economic activities, as well as the importance of respecting traffic signs are assessed.</p>	46.10%
3. Historical development of El Salvador	<p>This dimension includes situations that allow students to recognize the cultural heritage of the ethnic groups of El Salvador and the causes of the Spanish conquest. The coffee economy is analyzed, highlighting the changes brought about by its implementation.</p>	41.99%

Of the three theoretical dimensions explored, *the Historical Development of El Salvador* obtained the lowest performance, with 41.99% of correct answers. In contrast, *the Sociocultural Environment in El Salvador* showed a better performance, reaching 46.10%; while *the Geographic Environment and Salvadoran Reality* had 44.06%.

Cognitive dimension	
Comprehension	47.93 %
Analysis	39.78 %

From the results, it can be observed that in cognitive processes the performance is below 50%. In *Comprehension*, students achieved 47.93%, slightly exceeding the performance in *Analysis*, which was 39.78%, indicating the need to strengthen the skills with greater cognitive demand in students.

Based on the above results in the evaluated dimensions, the main findings are presented.

Strength

- Recognize the cultural heritage contributed by the ethnic groups that existed in El Salvador.
- Identify the effects that human activities produce on the relief, climate and in the flora and fauna of El Salvador.
- Recognize the advantages of El Salvador's geographical position on the globe.

Challenges

- Interpret the various economic, cultural and religious causes of the Spanish conquest of the current territory of El Salvador. The error detected lies in focusing more on cultural and religious aspects than on the exploitation of agricultural wealth as a central cause. This underlines the need to strengthen understanding of the specific economic reasons that drove historical events, thus improving educational strategies to clarify these concepts.
- Recognize the importance of caring for and using natural resources in El Salvador. Students do not understand the environmental benefits that result from conserving natural areas. This implies a lack of appreciation of how the preservation of these spaces contributes to the balance and sustainability of the environment's resources, crucial aspects for protecting the environment and mitigating negative impacts such as natural disasters.

Sixth Grade

	Theoretical dimensions	Hit percentage
1. The geographical environment and reality of Central America	Explore the mastery of skills aimed at recognizing, based on contextualized information, the importance of executing strategies and actions that contribute to the care of the region's natural resources, as well as interpreting the effects that the geographic location of Central America has on the realization of productive activities linked to agriculture.	40.14 %
2. The sociocultural environment of Central America	<p>It aims to recognize the contributions of the primary sector of the economy to meeting the basic needs of the population and the role that road networks play in promoting trade. It also explores the ability to recognize the importance of fulfilling the rights of people with disabilities, the elderly population, and the working class.</p> <p>Finally, items are included aimed at identifying social consequences of population growth, the benefits of cooperative work and the influence of the family on childhood development.</p>	43.28 %
3. Development historical of Central America	<p>It presents contexts that demand skills to recognize the elements that persist from the material and immaterial legacy of Mayan culture and identify its cultural characteristics.</p> <p>Cognitive tasks are also proposed to interpret the influence of the French Revolution on the consolidation of the independence movements in Central America, the recognition of the reasons that led to the dissolution of the Federation, as well as the economic strategies within the framework of Central American integration.</p>	43.42 %

The results show below-average performance in the theoretical dimensions.

In *the Geographical Environment and Reality of Central America*, the score was 40.14% correct, the lowest among all dimensions; *the Sociocultural Environment of Central America* achieved 43.28% and the *Historical Development of Central America* obtained 43.42%, the latter being the dimension with the best results.

Cognitive dimension	
Comprehension	42. 59 %
Analysis	43. 47 %

As for the cognitive dimensions, *Comprehension* obtained 42.59% and *Analysis* 43.47%, showing minimal differences between them. In summary, it is necessary to strengthen the basic skills of recognition, identification, interpretation and inference, which require a medium level of cognitive demand.

Based on the above results in the evaluated dimensions, the main findings are presented.

Strength

- Identify, through specific cases, the importance of fulfilling the rights of vulnerable populations. The students' ability to understand and value these rights in aspects such as occupational health care, the implementation of policies for the well-being of the elderly and the labor insertion of people with disabilities is highlighted.

Challenges

- Identify the internal and external causes that motivated the independence of Central America in its historical development, since the results show a lack of knowledge of the main events of the independence struggles.
- Recognize that the protection of natural resources requires long-term strategies beyond immediate clean-up campaigns. It is crucial to foster environmental awareness that promotes long-term solutions, which are essential to effectively address environmental problems in Central America.

Seventh Grade

	Theoretical dimensions	Hit percentage
1. The geographical environment and the reality of America	<p>It raises situations that enable the inference of actions that the population can take to counteract the effects of environmental deterioration caused by population growth in America, emphasizing the need to promote the responsible use of available resources.</p>	22.95 %
2. The sociocultural environment of America	<p>The challenges posed by demographic growth and the new skills that the population must acquire to successfully enter the current work environment are explored through contextualized situations.</p> <p>In turn, the student population must identify actions that favor tax activity in the country and the fulfillment of the rights and duties of the working class.</p>	41.83 %
3. Historical development of America	<p>It aims to recognize the characteristics of pre-Hispanic peoples, the causes and consequences generated by the process of conquest in America, without leaving aside the analysis of the political transformations that independence brought about on the continent.</p>	37.23 %

The test results reflect a general low performance of the students in all the dimensions evaluated, both theoretical and cognitive. The dimension of the *Sociocultural Environment of America* obtained the highest percentage of correct answers, while *The Geographic Environment and the Reality of America* showed the lowest percentage of success; on the other hand, the dimension *Historical Development of America* was located at an intermediate point.

Cognitive dimension	
Comprehension	39.65 %
Analysis	38.66 %

Both *Comprehension* and *Analysis* present quite similar success rates, which indicates that both areas need to be reinforced to enhance thought processes with greater cognitive challenge.

Based on the above results in the evaluated dimensions, the main findings are presented.

Strength

- Identify, based on contextualized situations, actions that are aimed at fulfilling workers' rights. Students demonstrate the ability to understand and appreciate the importance of labor rights, such as job protection and remuneration during pregnancy, and value measures to ensure job security in contexts such as the pandemic.

Challenges

- Infer the effects of population growth on the conservation of natural resources. Students do not perceive that excessive consumption of natural resources primarily affects their capacity for regeneration. They confuse this effect with others such as preventing the reproduction of protected species or the reduction of urban spaces. This reveals the need to improve understanding of how population growth influences environmental conservation.
- Recognize the causes and consequences of the Spanish conquest of the American continent. The main mistake students make is not adequately differentiating between the political, social and religious aspects of the conquest of America. They confuse the role of institutions and historical figures, minimize the impact of epidemics on the native population, do not identify exploitation in the relations between Europeans and indigenous people, and do not understand the use of Christianity as a tool of control.

Eighth Grade

Theoretical dimensions		Hit percentage
1. The geographical and sociocultural environment	It is explored through contexts that demand the interpretation of local or regional actions aimed at protecting the environment. At the same time, the aim is to identify measures to mitigate the effects of natural phenomena, as well as the impact of the geographic characteristics of the Central American region in determining the main economic activities.	42.37 %
2. Historical cultural development	It explores the recognition of the economic activities of pre-Hispanic peoples, as well as the elements that form part of their historical legacy. Other knowledge explored by the test is related to the contributions of the implementation of the agro-export model to the Central American region, the causes of the arrival of the Spanish to the current territory of Central America and the importance of the efforts of economic integration in the region.	35.52 %
3. Society and democracy	It enables students to recognize the importance of local traditions in strengthening national identity; it also promotes the identification of the roles that each member of the family should assume.	40.00 %

In general, both in the theoretical and cognitive dimensions evaluated, students showed a low performance. Regarding the theoretical aspect, *Geographical and sociocultural environment* obtained the highest percentage of correct answers; while *Historical and cultural development* had the lowest percentage; *Society and democracy* occupied an intermediate position between both.

Cognitive dimension	
Comprehension	37.53 %
Analysis	39.89 %

The cognitive dimensions of *Comprehension* and *Analysis* presented similar percentages of success, indicating that both areas require attention to improve student performance.

Based on the above results in the evaluated dimensions, the main findings are presented.

Strength

- Recognize that the geographic characteristics of Central America determine economic activities and impact the living conditions of the population. This is reflected in their ability to identify how climate, topography, and natural resources, such as fertile soils and access to oceans, impact sectors such as agriculture and tourism.

Challenges

- Identify common cultural elements at a local level, recognizing one's own identity and that of others, for intercultural coexistence. The main mistake students make is confusing economic benefits and those that promote creativity with strengthening the sense of community belonging. It is essential to reinforce the understanding of how traditions contribute to the historical and cultural legacy, highlighting their role in the identity of the community.
- Interprets the impact of physical relief on the living conditions of populations.
This indicates a confusion in interpreting the impact of physical relief on the living conditions of populations, specifically when identifying the direct social consequences of natural phenomena in the region. Understanding the relationship between damage to infrastructure and the living conditions of populations can be strengthened by highlighting how the interruption of basic services due to natural disasters affects daily life and social well-being.

Ninth Grade

	Theoretical dimensions	Hit percentage
1. The geographical and sociocultural environment	<p>It presents students with tasks aimed at recognizing the social effects of natural disasters, while they must interpret the importance of adopting measures to confront and mitigate the damage they cause. In turn, situations are presented in which the consequences of the unequal distribution of resources and population growth in America must be inferred and the importance of preserving natural resources must be identified.</p>	43.85 %
2. Historical cultural development	<p>It promotes the recognition of the consequences of the conquest process in America and the identification of the contributions of pre-Hispanic groups to current societies.</p> <p>On the other hand, the achievements of the working class worldwide are explored in relation to the recognition of the rights of organization, to ensure respect for labor rights; and the effects that the global economic crises that have occurred in the region and the world have caused.</p>	41.31 %
3. Society and democracy	<p>Explore skills aimed at interpreting the effects of non-compliance with road safety regulations and the importance of first aid.</p> <p>On the other hand, the aim is to analyse the role played by socialising agents in the process of forming individual and collective identity, as well as the effect that the media has on this process, through advertising and the promotion of values oriented towards consumption.</p>	44.18 %

The *Society and Democracy* dimension obtained 44.18% of correct answers, which was the best result compared to *the Historical-cultural development and The geographical and sociocultural environment*, which reached 41.31% and 43.85% respectively. It should be noted that the differences in the performance of the theoretical dimensions are moderate. In addition, it is noteworthy that in all cases the percentages of correct answers were below 50%.

Cognitive dimension	
Comprehension	46.30 %
Analysis	38.21 %

As for performance in the cognitive dimensions, there is a significant difference between *Comprehension* and *Analysis*, since Comprehension achieved 46.30% correct answers, eight percentage points higher than Analysis, which achieved 38.21%. This shows that the greatest difficulties are associated with tasks that require greater cognitive demand.

Based on the above results in the evaluated dimensions, the main findings are presented.

Strength

- Recognize the social effects caused by the occurrence of physical-natural phenomena in the American continent.
- Identify the importance of adopting measures to mitigate the risks that they represent physical-natural phenomena.
- Identify labor rights as an achievement of class demands hardworking.

Challenges

- Interpret, based on scientific information, the causes that influence the dynamics of population growth in the world. The results show difficulties in understanding how the geoeconomic characteristics of the regions affect the distribution of the population in specific places.
- Identify the importance of carrying out actions aimed at strengthening environmental sustainability, since students focus on environmental care actions from an aesthetic perspective, which, although important, is not the fundamental aspect for the preservation of resources.
- Identify the effects of the main economic events that occurred between 1830-1950, since they have difficulties in understanding the meaning of concepts such as: economic depression, agro-exportation, industrialization, demand, goods and external debt that are key to understanding the development and implications of the economic processes that took place between 1830-1950 in the world, as is the case of the economic depression of 1929.

First Year of High School

	Theoretical dimensions	Hit percentage
1. The geographical and sociocultural environment	<p>It presents contexts that allow us to recognize the effects generated by the dynamics of population growth in the world and how it affects the deterioration of natural resources; it also intends to analyze the effects produced by the technological development of humanity throughout history, as part of the constant processes of transformation.</p>	44.14 %
2. Historical cultural development	<p>Explore skills for understanding the historical processes that led to the arrival of Europeans to the American continent, as well as the interpretation of the changes brought about by the Industrial Revolution in the world, which is why contextualized situations are presented aimed at analyzing the positive effects of technological advances in the improvement of production processes and the impacts it has on the degradation of natural resources.</p>	35.95 %
3. Society and democracy	<p>It promotes the recognition of situations that favour sociocultural diversity, through the implementation of specific actions, as well as the interpretation of the role played by customs and traditions in the solidification of local identities.</p> <p>In addition, it encourages the analysis of family rights and the ways in which relationships of coexistence can be strengthened.</p>	38.53 %

The best results in this grade were found in the dimension *The geographic and sociocultural environment*, which obtained 44.14% of correct answers, while *Society and democracy* achieved the second best performance with 38.53%, leaving *Historical and cultural development* as the dimension where the greatest difficulties were evident, since the 35.95% of correct answers by the students were not exceeded; however, it can be stated that there are opportunities for improvement in all the theoretical dimensions explored by the test.

Cognitive dimension	
Comprehension	40.00 %
Analysis	39.21 %

At the cognitive level, the table shows that *Comprehension* achieved 40.00% correct answers, surpassing *Analysis* by less than one point, since the latter obtained a performance of 39.21%; therefore, it can be determined that even the mastery of basic skills represents a challenge for students at this level.

Based on the above results in the evaluated dimensions, the main findings are presented.

Strength

- Recognize actions aimed at guaranteeing legal provisions that promote respect for rights linked to equal opportunities at the workplace.
- Recognize the effects of scientific and technological development on processes expansionists of Europe during the 15th century.
- Identify the negative effects that the population's consumption habits have in environmental sustainability.

Challenges

- Identify the contributions of scientific and technological development to achieving food security for the population. Students focus their attention on the collateral effects that accompany technological development and not on the benefits offered when they are used in specialized areas such as agriculture, which makes it possible to increase productive capacities in order to reduce the shortage of goods for consumption.
- Identify the effects of the Industrial Revolution on demographic redistribution. The results show a lack of knowledge of the events that took place during that period, as they fail to identify that the development of large industrial centers led to the mass migration of people from the countryside to the city, which boosted the development of the manufacturing industry.

Second Year of High School

Theoretical dimensions	Hit percentage
1. Development historical cultural <p>Explore skills aimed at recognizing the socioeconomic context in which the global wars of the 20th century took place, as well as the historical events that led to their end; in this same sense, cognitive exercises are proposed aimed at establishing cause-effect relationships, with respect to technological development within the framework of the global economy.</p> <p>On the other hand, the effects of the implementation of the agro-export economic model in El Salvador are analyzed, with the purpose of understanding the dynamics of national economic development and inferring the positive effects on the country.</p>	37.00 %
2. Society and democracy <p>Situations are presented that make it possible to recognize the importance of exercising digital citizenship responsibly, the advantages and characteristics of the information society, which is the result of constant technological transformations.</p> <p>In addition, contexts are presented with a set of premises that allow students to establish cause-and-effect relationships to infer the importance of implementing local and regional actions and strategies that foster the conditions to promote sustainable development.</p>	34.32 %

When observing the results obtained in the two theoretical dimensions explored by the Second Year test, it can be seen that none of them exceeded 40.00% of success, which establishes a warning point, since *Historical-Cultural Development*, despite achieving the best result, did not exceed 37.00%, *Society and Democracy*, on the other hand, showed a lower performance by reaching 34.32% of successes, which shows that greater efforts must be made to strengthen these areas of knowledge.

Cognitive dimension	
Comprehension	37.77 %
Analysis	34.48 %

Similarly, the results show that there are no substantial differences in the mastery of basic and intermediate level cognitive skills (37.77% and 34.48% respectively). These two cognitive processes are essential for students not only to acquire knowledge, but also to be able to apply it, evaluate it and generate new ideas from it.

Based on the above results in the evaluated dimensions, the main findings are presented.

Strength

- Recognize events that led to the end of World War II World.
- Recognize the importance of complying with the rules of coexistence in the communication channels digital communication.

Challenges

- Infer the effects of implementing actions and strategies that promote environmental sustainability, since students approach the topic from a superficial perspective, considering that the opening of recreational sites and the increase in interest in ecotourism guarantee sustainability. This shows that there is difficulty in understanding that sustainability is achieved as a consequence of constant actions aimed at preserving natural resources over time, including through the creation of legal frameworks that prevent their depletion.
- Recognize the challenges that the development of economic globalization poses to the working class, since students mistakenly believe that the challenges are related to the efficient use of technological resources, ignoring the fact that, in principle, the digitalization process requires people to acquire technical skills that favor their insertion into the new labor market.

General conclusions

In order to synthesize the findings and provide information for decision-making, general conclusions by educational level, derived from the exhaustive analysis of the results, are presented below.

First Cycle

To improve understanding of family tree relationships, it is recommended to implement activities that clarify the differences between paternal and maternal family lines. Using visual diagrams, incorporating family cases, and repetitive practice in different contexts will help reinforce correct understanding of these family diagrams.

When interpreting the characteristics of electronic media, it is advisable to use practical examples that highlight the specific functions of each medium. Comparing different media and their specific functionality can significantly improve students' understanding.

To address the importance of work, you can start with real-life scenarios and ask questions that encourage analysis of the immediate and tangible economic implications, helping students connect these concepts to everyday reality. The following questions can spark children's opinions and interest: *Why do you think it is important for people to have a job? How can families get food, clothing and a place to live?*

Second Cycle

To enhance students' temporal understanding of past personal events, visual aids such as simple timelines and chronological diagrams or hands-on activities where students arrange personal events in temporal sequence, using familiar examples and everyday experiences, can be used.

Encouraging small group discussions about the importance of remembering and learning from past experiences also promotes a better understanding of time and sequence.

Promoting equity at home can include activities that raise awareness about these rights from an early age. Organizing mock debates where students act out family roles and discuss the importance of sharing responsibilities equally can help them develop empathy and understanding on the topic. Additionally, using stories that illustrate situations of equity and justice at home can effectively reinforce these concepts.

To strengthen students' ability to critically interpret media messages, you can incorporate exercises that encourage discussion and analysis of news stories. Providing clear examples of news stories and guiding students to identify the main message, the author's intentions, and possible biases can develop important critical skills from an early age.

Using topics of interest to students, such as animal protection or environmental issues, can make these exercises more engaging and meaningful.

Third Cycle

It is recommended to strengthen the mastery of skills that make it possible to identify the cultural elements of pre-Hispanic peoples and how these have influenced the sociocultural development of the Central American region; it is also essential to delve into the causes and consequences of the Conquest of America in order to interpret the historical events that occurred in that context, as well as the factors that influenced the decline of the Federal Republic of Central America in the 19th century.

It is also essential to promote analysis of the environmental effects generated by population growth, with a development vision focused on environmental sustainability, where knowledge of the environment is crucial for the rational use of resources, in such a way that it also contributes to mitigating the social effects caused by natural phenomena.

Regarding the dynamics of population growth, it is necessary to change the way we view them, given that the demographic growth experienced by El Salvador is perceived as an advantage (demographic bonus), due to the increase in the number of people who are of productive age, which represents an opportunity to increase the country's economic growth.

Secondary Education

It is suggested to strengthen the skills to identify the social effects produced by the Industrial Revolution and how it has influenced technological development today. To do this, the development of infographics or mental maps can be guided where the student establishes relationships between different facts with the consequences they caused during their evolution.

It is also necessary to go beyond a superficial and immediate understanding of social problems to an approach that promotes critical analysis in issues such as: the use of technological development in the agricultural sector, strengthening of actions aimed at protecting natural resources from an environmental sustainability perspective; all of the above based on the review of scientific information and the approach to real situations where the exercise of civic duties is appreciated to contribute to the integral development of society. It is also recommended to make efforts to delve into the challenges and opportunities that globalization brings in economic and labor matters.

Implementing these strategies in the classroom can significantly contribute to overcoming the identified deficit areas, preparing students for an engaged understanding in the area of Social Studies from the earliest years of schooling.

5.3 Science, Health and Environment / Natural Sciences

The subject allows students to develop the ability to investigate, know and understand the world around them. Natural Sciences are, by definition, a set of ordered, systematized and dynamic knowledge that includes theoretical dimensions such as living beings, ecology and environment, physics, chemistry and biology. Each of these areas has its representative concepts, which are taken up in school teaching with the purpose of educating. For this reason, they are organized into conceptual, procedural and attitudinal content.

The Diagnostic Assessment "Knowing My Achievements" 2024 assessed conceptual content and the application of procedural content in the Third Cycle of Basic Education and Secondary Education. Students in the First and Second Cycle of Basic Education did not participate in the diagnostic study due to changes in the curricula corresponding to these levels.

As for the structure of the items in the tests, contextualized situations are presented such as experimental setups, diagrams and informative texts. In this way, not only the knowledge of a content must be demonstrated, but also the cognitive tools used to solve it.

Evaluated dimensions

Cognitive

Recognition of scientific information: corresponds to the recognition of data, concepts and scientific laws. The main skills involved are recognition and interpretation.

Analysis of scientific knowledge: involves relating natural phenomena to their scientific explanations, as well as recognizing basic scientific procedures. The main skills involved are identification and classification.

Eighth Grade

Theoretical dimension		Hit percentage
1. Physics	It explored the students' ability to differentiate between fundamental and derived physical magnitudes, as well as their scalar or vector nature; the concept of mechanical energy and its different forms.	42.02 %
2. Chemistry	The internal structure of the atom, atomic number and mass of a chemical element were evaluated; in addition to the classification and location of chemical elements in the periodic table, as well as the identification of compounds through their chemical formulation.	45.54 %
3. Biology	In this area, the structure and vital functions of the cell, the classification and differences between eukaryotic and prokaryotic cells, similarities and differences between animal and plant cells were evaluated. Also, the relationship between community, population and environment, in addition to the conception of the living or non-living nature of viruses and the identification of the layers that make up the Earth.	50.87 %

The results of the diagnostic assessment show that students have uneven performance in the theoretical and cognitive areas of natural sciences. *Biology* is the strongest area, while *Physics* and *Chemistry* present more challenges.

Cognitive dimension	
Recognition of scientific information	44.66 %
Analysis of scientific knowledge	39.77 %

In cognitive terms, students find the *analysis of scientific knowledge* more difficult than the *recognition of information*.

Based on the above results in the two dimensions evaluated, the main findings are presented.

Strengths

Students have a good understanding of topics related to Earth structure, cell functions, and basic energy and measurement concepts. In particular, they are able to:

- Recognize in a diagram the composition of the layers of the earth.
- Recognize the cells responsible for transporting oxygen to the entire body.
- Identify the type of energy involved in the movement of a ship from a figure.
- Interpret the representation of atomic models from a text.
- Identify the unit of measurement corresponding to area and volume from the measurement of the dimensions of an object.

Challenges

They have difficulties with topics related to Chemistry, especially in identifying and classifying compounds and solutions, as well as in understanding energy concepts. Specifically, students fail to recognize molecular structures of everyday substances. This problem is aggravated when teaching focuses more on memorizing chemical formulas and names rather than on practical application.

In the area of Physics, one of the greatest difficulties for students was to interpret the transformation and conservation of energy. Although they know the principle of conservation of energy by heart, they are unable to apply it to solve problems.

Based on these results, it is suggested that particular emphasis be placed on strengthening knowledge in chemistry and on understanding complex energy and biological concepts.

Ninth Grade

	Theoretical dimension	Hit percentage
1. Physics	Everyday situations involving the concepts of work, power, mechanical energy, transformation and conservation of energy, density and fluid pressure were addressed. Knowledge about the structure and functioning of the Sun was explored, as well as the relationship between the Moon and the tides.	44.20 %
2. Chemistry	The understanding of the concepts of atomic mass, internal structure of the atom, molecular masses of substances and the classification and function of biomolecules was investigated.	44.90 %
3. Biology	The understanding of the similarities and differences between animal and plant tissues, the specific characteristics of the different kingdoms, ecological successions, introduction and transfer of energy in ecosystems, biogeochemical and hydrological cycles was evaluated.	42.70 %

The results of the diagnostic test show that students have a low performance in the theoretical areas of natural sciences, with a slight advantage in *Chemistry* over *Physics* and *Biology*.

Cognitive dimension	
Recognition of scientific information	46.75 %
Analysis of scientific knowledge	40.68 %

In cognitive terms, students perform better in *recognizing scientific information* than in *analyzing scientific knowledge*.

Based on the above results in the two dimensions evaluated, the main findings are presented.

Strengths

Students demonstrated improved performance in the following areas and skills:

- Identify in images similarities between animal tissue and plant tissue.
- Interpret the influence of the position of the moon on the tides from an image.
- Recognize from a set of everyday products and their location in a pH scale, which one is more acidic.
- Estimate the potential energy of a body in an everyday environment situation.

Challenges

As for learning challenges, it is essential to focus efforts on strengthening the areas of Chemistry and Physics, especially in the identification and classification of chemical compounds and the understanding of energy concepts applied to ecological phenomena.

The skills of "Identifying, through various examples, where the transformation and conservation of energy in the environment occurs" and "Remembering the laws that govern the transfer of energy within ecosystems" obtained low scores in the Ninth Grade diagnostic test.

Possible reasons why students find it difficult to develop these skills include that they are both interrelated, as they focus on fundamental concepts of energy. That is, recognizing and understanding how energy changes from one form to another, and in turn, understanding how energy flows through ecosystems, passing from producers to consumers and decomposers, as well as how the law of conservation of energy applies to these processes.

First Year of High School

Theoretical dimension		Hit percentage
1. Physics	This domain evaluated concepts related to the manifestation of electrical and magnetic energy, as well as properties of light, through experimental setups.	41.59 %
2. Chemistry	This domain explores the changes that matter undergoes, its macroscopic, microscopic (atomic and molecular models) and symbolic description (symbols, formulas, equations) through informative texts, everyday situations and experimental set-ups; as well as the benefits that some chemical products bring to society.	41.17 %
3. Biology	It explores through diagrams, scientific research and analysis of tables, the structure and functions of the cell, as well as the applications of the study of DNA, the classification of microscopic living beings and their role in the ecosystem and today's technological society; the analysis of environmental problems and the relationship between community, population and environment, with the purpose of building a clearer vision about the effects of human activity on the natural environment.	45.14 %

The results of the diagnostic test indicate a poor overall performance in the theoretical areas of natural sciences, with slightly better performance in *Biology* compared to *Physics* and *Chemistry*.

Cognitive dimension	
Recognition of scientific information	44.27 %
Analysis of scientific knowledge	39.14 %

The *recognition of scientific information* shows a slightly higher performance than the *analysis of scientific knowledge*, in cognitive terms.

Based on the above results in the two dimensions evaluated, the main findings are presented.

Strengths

Students demonstrated improved performance in the following areas and skills:

- Interpret the phenomenon of light reflection from the outline of an experiment.
- Recognize the concept of DNA from an informative text.
- Identify the diagram that correctly represents what happens when a magnet breaks.
- Estimate the number of chromosomes that reproductive cells should contain, based on the observation of diagrams.

Challenges

In Physics, challenges include understanding the nature of light and electrical and magnetic forces, as well as the ability to develop models that explain these interactions.

Regarding the magnetic phenomenon, it is necessary to make observations and descriptions of how electrostatic phenomena occur and their atomic origin, since students consider that electrostatic phenomena occur due to the formation of magnets and not because electrical charges move from one body to another.

Another challenge is focused on the area of Chemistry, as they have difficulty in understanding chemical changes and the symbolic representation of these processes.

Students fail to identify macroscopic evidence of a chemical change or determine that mass is conserved in a chemical change when presented with information in tables of results of an everyday reaction. It is crucial that students develop skills to interpret and predict chemical reactions, as well as to apply concepts such as conservation of matter in a variety of experimental and theoretical contexts.

Second Year of High School

	Theoretical dimension	Hit percentage
1. Physics	The course evaluated the representation of forces in a body in equilibrium, the relationship between temperature and the change of state of matter. The course explored the conceptual knowledge of power, thermometric scales, kinetic energy and some properties of fluids.	46.57 %
2. Chemistry	The characteristics and properties of the atom were explored, as well as factual knowledge about the ionization process, as well as the interpretation of the components of chemical solutions, colligative properties, and the factors that affect solubility.	47.90 %
3. Biology	This domain investigates the process of cell division and DNA mutations; also the mechanisms of evolution and cellular respiration in microorganisms. In addition, it assesses the factual knowledge of the levels of ecological organization. On the other hand, it evaluates the ability to interpret concepts such as photosynthesis in plants, phenotypic percentages from genotypic crossing in the Punnett square and blood compatibility in humans.	44.15 %

The results of the diagnostic assessment show that students have a performance in which *Chemistry* presents slightly more success than *Physics* and *Biology*, which is the one with the lowest result.

Cognitive dimension	
Recognition of scientific information	46.94 %
Analysis of scientific knowledge	45.35 %

In cognitive terms, there is no significant difference between both levels.

Based on the above results in the two dimensions evaluated, the main findings are presented.

Strengths

The following areas and skills were where students showed the greatest mastery:

- Identify the relationship between temperature and thermal energy in the process of change state of matter.
- Interpret how pressure affects the solubility of gases in liquids.
- Interpret the formation of an anion using a diagram.
- Recall from an example the molecular components of a solution.
- Infer from an experiment the effects of heat on the expansion of gases.
- Identify the relationship between pressure and particle density in gases.

Challenges

The most difficult skill according to the results is identifying variations in kinetic energy in everyday situations, which coincides with the results of the Third Cycle of Basic Education. Regarding Chemistry topics, interpreting the formation of ions from diagrams is a challenge, since students have difficulty relating the concept of ion to electrical charges. This difficulty is also related to the integration of two areas, in this case, physics and chemistry. Regarding the topic of chemical solutions, it is necessary to approach them from a microscopic perspective so that students can analyze how particles behave when mixed. This helps develop skills in identifying evidence and inferring about the properties of chemical solutions.

Understanding anaerobic respiration in everyday situations is another problematic area. This difficulty could be due to the need to connect this complex biological process with everyday examples, such as the analysis of wastewater treatment using anaerobic bacteria.

Final thoughts

The results of the diagnostic test reveal a diverse picture of student performance in natural sciences, highlighting areas of strength and specific challenges at different educational stages. To address these problem areas and enhance learning, various pedagogical strategies are suggested:

1. Teaching approach based on case studies and everyday examples:

Chemistry: Use cooking examples, such as the fermentation of bread or the caramelization of sugar, to teach about chemical reactions. This connects theoretical content with everyday activities.

Physics: Explain conservation of energy using sports such as high jumping, describing how potential energy is converted to kinetic energy.

Biology: Analyze wastewater treatment with anaerobic bacteria to teach about anaerobic respiration.

The case study must go hand in hand with an experimental methodology that allows us to demonstrate, characterize and search for patterns in the phenomena, facilitating their explanation.

In addition, the following activities are suggested to encourage critical thinking and the application of knowledge:

Open-ended Problems: Presenting problems without a single correct solution to encourage divergent thinking. For example, asking how the energy efficiency of a home could be improved.

Debates and Seminars: Organize debates on current scientific topics to develop argumentative skills and understand different perspectives.

Role-Playing: Use simulations where students take on the roles of scientists, engineers, or politicians to address environmental or public health issues.

2. Interrelation of areas:

Many ecological phenomena, such as trophic pyramids or ion formation, have a conceptual basis in physics. Establishing relationships between different areas allows students to form connections between concepts, encouraging meaningful memorization. For example, teaching the electrolysis of water shows how the concepts of electricity (physics) and chemical reactions (chemistry) are interrelated.

To improve these results, it is crucial to:

- Relate the concepts to everyday life, explaining how the principle of conservation of energy is applied in different contexts, from sports to technology and natural phenomena.

- Develop effective teaching strategies that facilitate the identification and classification of chemical compounds and the interpretation of relationships between different physical quantities and biological processes.
- Implement teaching methods that promote critical thinking and application of knowledge, such as case studies, open problems, and group discussions.
- Promote the understanding of Physics applied to everyday situations and the ability to connect the transfer of energy in ecosystems with the principle of energy transformation.
- Use teaching strategies that strengthen conceptual understanding of theoretical areas through analogies, examples and experiments, in addition to developing higher cognitive skills such as critical analysis and synthesis through research and debate activities.
- Propose simple experiments where students can identify and manipulate variables, build their own observation schemes and establish quantitative and qualitative relationships of physical phenomena.
- Implementing these strategies in an integrated manner and adapted to the specific needs of students can generate a more dynamic and effective learning environment, significantly improving their understanding and application of natural science concepts.

5.4 Language and Literature

The subject of Language and Literature implements the communicative approach, which aims to teach students to communicate appropriately in a variety of situations; this involves placing communication at the center of the teaching-learning process and strengthening linguistic macro-skills such as speaking, listening, reading and writing through the understanding of literary and non-literary texts.

Therefore, assessing reading, for the current national curriculum, is of vital importance, not only for its enabling nature, but also because it is part of a citizen's capacity to become a subject of social transformation.

In this sense, the development of reading comprehension is prioritized to promote active learning, since it is conceived as a transversal competence, through which the development of communicative competence and access to information in other areas of knowledge is encouraged. Likewise, when the reader accesses the information in a text, he or she demonstrates mastery of a variety of prior knowledge. In educational assessment processes, students are confronted with a variety of textual typologies that adapt to each educational level, which are necessary for the development of reading comprehension skills.

In this sense, the learning assessment activities of the Diagnostic Assessment "Knowing My Achievements" 2024, were aimed at exploring the level of reading comprehension achieved by students during the year 2023, with the purpose of motivating reflection on learning and supporting educational processes in the classroom.

To assess reading comprehension, these tests use the common core multi-item test, in which, based on a textual typology, at least three multiple-choice items are proposed, which are designed based on the reading skills corresponding to the literal or inferential reading comprehension levels, and which also allow exploring different aspects of the text such as content, structure and textual property.

It is worth mentioning that, for the purposes of analyzing test results, the Language and Literature assessment model considers the levels of reading comprehension as "Cognitive Dimensions", since they involve thought processes that allow knowledge to be constructed; in this way, the students' reading skills are investigated.

Textual typologies, on the other hand, make up the "Theoretical Dimensions," which focus on the content; that is, the theoretical dimensions are determined by the study programs in force for each grade, since the study of texts is determined by the study programs. Textual typologies are the curricular reference point, from which the different tasks that involve reading strategies are organized, according to the reading comprehension levels described below.

Evaluated dimensions

Cognitive

Reading Comprehension Levels

Literal understanding

This level of reading comprehension is characterized by including items based on the recognition of explicit and relevant information within the text; therefore, the reader must demonstrate decoding and disambiguation processes to build the situation model and understand the meaning of the text's message. In addition, this level requires identifying phrases, statements or propositions (main ideas) that allow access to the meaning of the text.

In this dimension, the reading ability to relate information from different segments of the text is also assessed, for which the application of coherence and cohesion mechanisms is necessary, that is, understanding the organization of ideas within a paragraph and how they relate to each other.

Inferential comprehension

In the assessment model of diagnostic tests, it is established that this level of reading comprehension evaluates two cognitive reading processes. The first is interpretation, which consists of the abstraction of information from the textual content, that is, the intellectual production that the reader carries out when accessing and appropriating the meaning and sense of the ideas in the text.

On the other hand, the second reading process that is evaluated is inference; a reading skill that consists of the association between the ideas of the text to deduce and assume implicit information, with the purpose of generating hypotheses that allow you to establish conclusions, predictions and propose new information.

In this sense, in this cognitive dimension, items are presented that require the application of reading comprehension strategies to interpret implicit information, establish hypotheses, assumptions and understandings, according to the textual content, that is, the reader is asked to determine the meaning of the message, based on the recognition of the communicative intention of the issuer and knowledge of the context. Likewise, in the understanding of the purpose of actions, identification of feelings and attitudes of characters in a literary text; therefore, in most cases, the level of discursive analysis is based on the text as a whole, however, it is also evaluated at a local level (statements, paragraphs, verses and stanzas), since it is based on the information that is communicated (what is not said), for example, the identification of the communicative intention of a speech act or statement.

Theoretical

Textual typologies: reading stimuli

The selection of each of the texts, from which the test items were designed, responds to a process of curricular reflection, based on the topic developed, social practices of language linked to each textual typology, adequacy and adaptation of the language and level of complexity according to the educational level evaluated, as well as the capacity of the text to propose specific tasks, according to the level of literal or inferential reading comprehension.

The textual typologies are described below, followed by a table showing the type of text evaluated in each grade.

Narrative texts

Narration is a textual modality that is related to the traditional forms of expression of humanity, as it refers to the ability to narrate or relate a fact or anecdote, through a series of actions, at a given time; hence, narrative texts can be expressed through various discursive genres such as story, fable, myth and novel.

The narrative texts selected for this assessment have a continuous prose structure and are characterized by presenting, through the omniscient narrator, a complete communicative situation with unity and thematic progression.

The elements mentioned allow the reader to construct the situation model, based on the identification of the elements of the narrative situation such as characters, action, narrator, time and place.

Expository texts

They present coherent and objective information about a given topic, without reflecting opinions that seek to convince the reader, since the main purpose is to inform.

They use denotative language and in some cases make use of iconic elements (graphs, diagrams, etc.). The vocabulary used is specific and depends on the topic and the level at which it is addressed.

Dialogic texts

This type of text involves the oral or written reproduction of a conversation; therefore, they present a situation of communicative exchange between two or more interlocutors.

In the diagnostic tests, a variety of literary texts are presented that have a dialogic structure. Thus, dramas and tragedies are presented as reading stimuli to evaluate cognitive skills. This type of text directly presents the speeches of the characters, through which the actions, feelings and ideas relevant to the development of the plot are communicated; in addition, the speeches are accompanied by stage directions that are guidelines intended to clarify the understanding of the communicative situation.

It is worth mentioning that the texts selected in this evaluation process are representative and exemplary scenes of the development of the plot. In addition, they have unity and thematic progression, so that students will be able to decode each of the speeches to build their model of the situation.

Descriptive texts

They address a topic or theme with the main intention of describing its features or attributes, so a detailed and organized explanation is made of what an object, person or situation is like. Their fundamental purpose is to inform; therefore, they present reality in the most truthful way possible.

They are characterized by precision and clarity, since the reader seeks to know the reality that is described in an exact manner, without personal assessments; therefore, their features are: the representative function of language, the denotative lexicon and the use of technical terms, concrete nouns and specific adjectives.

Argumentative texts

It is a type of text that aims to defend a thesis (idea or opinion) through logical reasoning, exposition of ideas and data, among others; with the aim of convincing the reader of the validity of said idea, opinion or thesis.

Argumentation is a discursive resource used to deal with issues that are considered complex, that cause or imply difficulties or different positions.

On the other hand, with respect to the formal criteria that make up the text, it should be noted that it has a standard language, clear and accessible to different types of readers; in addition, it presents the basic elements of an argumentative text such as: the title, the introduction, thesis, development of the arguments and the conclusion.

Poetic texts

It is a literary textual typology through which the subjectivities, emotions and feelings of the author are expressed, through a "lyrical I", towards a "lyrical you".

The construction of the meaning of the poetic text is a complex activity that requires greater involvement in reading, due to the connotation of the language, since it has an aesthetic purpose and use of rhetorical resources, which is why it becomes an adequate stimulus to evaluate the level of inferential reading comprehension.

Biographical texts

This type of text presents the most relevant aspects of a person's life in a chronological order. The data that stand out are: name, date of birth and in some cases of death, where they lived, with whom they lived, the most representative actions and other data of interest.

Biographical texts have specific characteristics that are linked to their communicative intention and that differentiate them from expository and narrative texts. Their basic structure consists of an introduction (who the person is or was), development (what their main contributions are) and conclusion (what their legacy is).

Propaganda texts

They are non-literary texts with an appellative function. Their purpose is to promote information to convince the recipient to purchase a product, participate in an activity or modify a behavior.

Propaganda texts use iconic and verbal elements, as well as many of the connotation procedures, because they are mainly directed at the feelings and motivations of the recipient.

Instructional texts

They present in an organized and systematic way the information necessary to carry out a specific action or solve a problem. The main function is to direct or guide the reader with a series of steps or actions towards the completion of a specific task.

This type of text requires a special format, since the information is organized in a sequence of steps or instructions that appear in a certain order.

Direct, clear, brief and simple language is used. The information is transmitted objectively. They are also supported by a set of non-linguistic elements that help the reader understand the steps proposed.

Analysis of Language and Literature results

Third Grade

Theoretical dimensions	Hit percentage
Instructional text	37.12 %
Narrative text	31.47 %
Expository text: Poster	36.05 %
Informative text: Letter	41.56 %

Cognitive dimensions	
Literal reading comprehension	65.17 %
Inferential reading comprehension	53.70 %

At the level of theoretical dimensions, the epistolary communication text (family letter) takes precedence over those whose main purpose is to inform (expository), those that narrate a series of actions (narrative) and those whose main function is to direct or guide the reader to carry out a specific task (instructional).

Regarding the cognitive dimension, the results imply the primacy of the literal dimension over the inferential one; that is, the items that require the recovery of information from the textual content have better results than those that require deducing and presupposing implicit information.

Based on the above results in the two dimensions evaluated, the main findings are presented.

Strengths

- Identify cause-and-effect relationships between the actions of characters in a narrative text with a moral purpose; this involves understanding the organization of ideas within a paragraph and how these relate to each other and the ideas expressed in other paragraphs; that is, in the text as a whole.
- Infer the communicative purpose of the family letter, based on discursive analysis carried out on the basis of the text as a whole.

Challenges

- Differentiate between relevant and irrelevant steps in a text that aims to direct or guide the reader towards carrying out a specific action; that is, the student finds it difficult to associate ideas in the text to deduce and assume implicit information.
- Interpret the main idea developed in a family letter. The skill requires the reader to carry out intellectual procedures to identify the central information of the two-way communication text and interpret it; which implies a process of abstracting information from the textual content, accessing and appropriating the meaning and sense of the ideas in the text, to make an intellectual production.

Fourth Grade

Theoretical dimensions	Hit percentage
Informative text: Letter	59.18 %
Expository text: Vignette	54.11 %
Narrative text: Comic	55.22 %
Expository text: News	61.52 %
Expository text: Location map	66.32 %
Instructional text: Cooking recipe	57.79 %

Cognitive dimensions	
Literal reading comprehension	55.93 %
Inferential reading comprehension	64.67 %

At the level of theoretical dimensions, the three with the highest percentage of correct answers are the expository text with a discontinuous structure, in its variants of location map and news, and the informative text (letter); compared to the instructive texts (cooking recipe), narrative (comic) and expository (vignette).

Regarding the cognitive dimension, the inferential reading comprehension level has gained relevance in the results and involves both intellectual production and the association between the ideas in the text, which allows the establishment of conclusions, predictions and the proposal of new information. On the other hand, the literal level, second in results, demands the construction of the situation model and the understanding of the meaning through the recognition of explicit information.

Based on the above results in the two dimensions evaluated, the main findings are presented.

Strengths

- Interpret the information contained on food product labels.
- Find explicit information present in informative texts with structure discontinuous.

Challenges

- Retrieve specific information about the event presented in a news story. The ability to retrieve information in a text that presents coherent and objective information about a given topic implies that the student must demonstrate decoding and disambiguation processes to build the situation model and understand the meaning of the text's message, in order to accurately locate the requested information.
- Recognize the structural elements that make up a family letter. To do so, the student showed a lack of mastery in activating his prior knowledge of the textual typology he was faced with and, based on this, identify the location of the information requested, through the process of decoding and disambiguation, identifying phrases, statements or propositions that would allow him to access the meaning of the text.

Fifth Grade

Theoretical dimensions	Hit percentage
Poetic text	43.27 %
Expository text: Location map	51.68 %
Dialogic text	53.82 %
Informative text: News	49.18 %

Cognitive dimensions	
Literal reading comprehension	52.09 %
Inferential reading comprehension	43.42 %

In relation to the cognitive dimensions, in Fifth Grade the one that obtained the best result was the literal one compared to the inferential one. That is, the students responded better to the processes that imply: recognition of explicit and relevant information within the text, identification of phrases, statements or propositions (main ideas) that allow access to the meaning of the text and the establishment of relationships in the information of different segments of the text; compared to processes such as abstraction of information from the textual content, association between the ideas of the text to deduce and presuppose implicit information, with the objective of generating hypotheses that allow them to establish conclusions, predictions and propose new information.

Based on the above results in the two dimensions evaluated, the main findings are presented.

Strengths

- Interpret the statements of the characters in a dialogic text.
- Recognize the causes that originated the fact in a news item.

Challenges

- Relate the title of the poem to its content, through the intellectual production that the reader carries out when accessing and appropriating the meaning and sense of the ideas in the text. This skill requires an analysis of the text as a whole.
- Interpret implicit information in poetic texts, based on the abstraction of information from the textual content. The skill requires that the student make an intellectual production when he or she accesses and appropriates the meaning and sense of the ideas in the text, implying for this, the component of subjectivity and connotation that characterizes poetic texts.

Sixth Grade

Theoretical dimensions	Hit percentage
Narrative text: Story	46.15 %
Biographical text	39.35 %
Propaganda text: Poster	43.91 %
Dialogic text	48.00 %

Cognitive dimensions	
Literal reading comprehension	48.23 %
Inferential reading comprehension	41.77 %

The results indicate a higher percentage of correct answers in the comprehension of dialogic texts. This structure allows the reader to follow the interaction between the characters more clearly. In addition, the stage directions provide additional information about the emotions and actions of the characters, which facilitates the understanding of the textual content. On the other hand, students find interaction with biographical expository texts a challenge; this type of text requires the reader to use strategies to understand specific and chronological details about a person.

In addition, skills to identify and remember explicit information were evident, which is due to the fact that they use rereading techniques to verify and retrieve information.

However, greater difficulty was identified in understanding implicit information and making deductions from literal information.

Based on the above results in the two dimensions evaluated, the main findings are presented.

Strengths

- Interpret the cause and consequence relationships between the actions that constitute the plot of dialogic texts.
- Recall relevant information from the text that is explicitly present in the interactions of the characters in dialogic texts.

Challenges

- Interpret the meaning of words from the linguistic context. This represents a challenge for students because it involves understanding the linguistic context of the communicative situation in order to consider the connotations and use of specific words in biographical texts.
- Infer information about the content and structure of biographical texts. This skill represents a significant challenge for students, as it requires a deep understanding of the text. To achieve this, students must apply reading strategies as well as metatextual knowledge to deduce the communicative intention of the text.

Seventh Grade

Theoretical dimensions	Hit percentage
Narrative text: Story	55.00 %
Expository text	45.40 %
Dialogic text	47.05 %

Cognitive dimensions	
Literal reading comprehension	47.38 %
Inferential reading comprehension	49.04 %

The results indicate a higher percentage of correct understanding of narrative texts. This type of text has a clear structure and addresses familiar topics that facilitate understanding of the communicative situation. However, it is difficult to interact with expository texts. On the other hand, it is evident that students understand the meaning or the implicit meanings within a text. However, they have difficulties in identifying and remembering information contained in the text, because they do not implement techniques such as rereading to verify and retrieve information.

Based on the above results in the two dimensions evaluated, the main findings are presented.

Strengths

- Interpret the cause and consequence relationships between the actions that make up the plot of stories.
- Locate specific information that is presented explicitly in a story; through an appropriate decoding process of the message.

Challenges

- Identify main and secondary ideas in paragraphs of expository texts; through understanding the organization of information. This represents a challenge because students must apply effective reading strategies, such as the creation of mental schemas, which help them identify and understand the hierarchy of ideas presented in a text.
- Determine the central theme of expository texts, for which students must understand the thematic unit based on the relationship between the ideas presented and the subject of the text and develop their own synthesized version of the content expressed in what they read, respecting the essence of the message of the text.

Eighth Grade

Theoretical dimensions	Hit percentage
Narrative text	47.66 %
Descriptive text	56.74 %
Expository text	42.72 %
Cognitive dimensions	
Literal reading comprehension	43.71 %
Inferential reading comprehension	52.02 %

The results show that students have a greater understanding of descriptive texts. This type of text presents the characteristics or features of a living being in a detailed and objective manner, which facilitates the creation of a mental image in the reader and improves the understanding of the information. However, they have greater difficulty interacting with expository texts, despite the fact that this is a similar textual typology to descriptive texts. On the other hand, the data show that students have a greater ability to infer information than to remember or relate information.

The difference could be attributed to the inadequate application of rereading techniques to verify the detailed information read in the text.

Based on the above results in the two dimensions evaluated, the main findings are presented.

Strengths

- Assess the content, structure and thematic unity of descriptive texts to infer the communicative intention.
- Summarize the content of texts they read, since they locate and reproduce the information that is explicitly expressed in the text, based on the relationship between ideas based on the thematic unit with the purpose of producing knowledge; creating a reduced and original version of the content read, which respects what is expressed in descriptive texts.

Challenges

- Recall relevant information from the text, which involves evoking and locating specific information that is explicitly present in expository texts. This represents a challenge for students to include in their study practices, reading exercises that aim to discover relevant details of the text and identify key information.
- Interpret specific information from an expository text, which requires determining what is meant by what has been read. This represents a challenge for students, since interpreting information is a process in which new meaning is given to the information. This process involves reflection and in-depth analysis of the content of the text.

Ninth Grade

Theoretical dimensions	Hit percentage
Narrative text	40.95 %
Argumentative text	38.38 %
Poetic text	43.38 %
Expository text	42.78 %

Cognitive dimensions	
Literal reading comprehension	43.13 %
Inferential reading comprehension	39.62 %

The results indicate that the interaction of students with the textual typologies is similar, except in the reading of argumentative texts, which is more complex because it requires knowledge about the structure, characteristics and specific elements for its understanding. This causes the reading comprehension process to require greater efforts on the part of the students.

Furthermore, in terms of cognitive dimensions, the literal reading comprehension level presents a higher percentage of correct answers than the inferential reading comprehension level, since difficulties are evident with the identification of the central theme and the communicative intention of the texts evaluated.

Based on the above results in the two dimensions evaluated, the main findings are presented.

Strengths

- Interpret specific information from an argumentative text, which requires determining what is meant by what is read by assigning a possible meaning to the information presented.
- Retrieve relevant information from the text, because they evoke and locate information specific that is explicitly present in expository texts.

Challenges

- Identify the elements that constitute the structure of narrative texts, through the relationship between the explicit information presented and the students' prior knowledge about textual typology, with the purpose of inferring their intention or communicative purpose.
- Recover the thesis stated in an argumentative text, which is explicitly found in the text. This shows a lack of knowledge about appropriate reading techniques, such as the recognition of the structural elements that the text has, as well as strategies that allow the location and extraction of characteristic elements of the structure of these.

First Year of High School

Theoretical dimensions	Hit percentage
Dialogic text: Tragedy	34.84 %
Dialogic text: Drama	42.21 %
Expository text	38.17 %
Argumentative text	37.30 %
Editorial	33.92 %

Cognitive dimensions	
Literal reading comprehension	35.76 %
Inferential reading comprehension	39.24 %

Based on the results of this level, it is possible to identify that, with respect to the theoretical dimensions, the dramatic text presents a higher percentage of success due to its simple language and the development of the plot intrigue. However, the tragedy presents a lower percentage despite having the same dialogical structure, since the communicative situation presented in the latter is more complex and uses a solemn literary style.

On the other hand, in relation to the cognitive dimensions, inferential reading comprehension has a higher percentage of success compared to literal reading comprehension, because rereading techniques are not adequately applied to consolidate comprehension, which makes it difficult to recover literal information or the relationship of ideas in the text. Based on the previous results in the two dimensions evaluated, the main findings are presented.

Strengths

- Infer the communicative intention of dialogues presented in dramatic texts tragic.
- Interpret cause-effect relationships from statements made by characters in dramatic texts.

Challenges

- Retrieve literal information about specific characters in dramatic literary texts from the dialogues presented, which makes it difficult to locate and extract the explicit information requested to solve the statement. The challenge lies in applying reading techniques that allow strengthening the reading exercise and decoding.
- Inferring the communicative intention of an infographic text, which indicates a difficulty in establishing connections between the explicit information presented in the text and the students' prior knowledge of the text typology. Therefore, one of the elements of this relationship was given priority over the other, without taking into consideration the particular characteristics that the infographic text presents.

Second Year of High School

Theoretical dimensions	Hit percentage
Narrative text	36.91 %
Expository text	34.02 %
Propaganda text	39.06 %
Poetic text	31.70 %
Argumentative text	33.46 %
Cognitive dimensions	
Literal reading comprehension	35.35 %
Inferential reading comprehension	34.74 %

The textual typology with the highest percentage of correct answers at this level is the propagandistic one, since it presents blocks of text, accompanied by elements such as images, icons and graphics that facilitate its understanding. In contrast, the connotative language and the verse structure, characteristics of the poetic text, made the interpretation process difficult for the students. This is because the poetic text requires more complex interpretation procedures, given its structure and communicative purpose.

Furthermore, in relation to the cognitive dimensions, the difference in the percentage of correct answers between literal and inferential reading comprehension is not very significant. It is important to mention that neither of them exceeded 40%, which shows opportunities for improvement in the procedures involved in both levels.

Based on the above results in the two dimensions evaluated, the main findings are presented.

Strengths

- Interpret cause-effect relationships based on the actions of characters in texts narratives.
- Interpret information presented in propaganda texts, through the connection between two ideas in the text.

Challenges

- Interpret the meaning of the statement used as a slogan in a propaganda text, which shows a lack of knowledge of the function it fulfills within the text, and therefore it is not possible to relate it to the subject matter to assign it a meaning.
- Inferring the communicative intention of the lyrical self in a poetic text, by means of abstracting the relevant information from each stanza of the poem. This challenge exposes a weakness in the inference process, since the common elements present in the text cannot be integrated.

Final considerations of the subject

In the evaluation of the subject, priority was given to exploring reading skills associated with the levels of reading comprehension, based on communicative situations; therefore, in the test, students interacted with various texts and answered a series of questions derived from them. Based on the results, it is possible to make an approximation of the level of reading comprehension that the students have.

From a general perspective, the percentages of correct answers show a downward trend as the educational level increases. In terms of the higher average percentage of correct answers, third and fourth grades stand out in particular, with average correct answers above 50%. This situation is of interest in order to reflect on the factors that influence this phenomenon.

It is important to consider that the disposition and interest in reading are relevant factors in achieving understanding of the text. Likewise, the application of reading techniques by students is crucial. Therefore, it is essential that the teacher systematically checks the performance of students in oral reading and rereading, based on criteria such as diction, intonation and adequate fluency, since they have an impact on the development of concentration and, therefore, on the level of reading comprehension.

Reading ability is the result of the automation of mental processes such as word recognition, decoding, and disambiguation. These processes, together with reading fluency, allow access to attentional resources intended for higher processes such as interpretation and inference. As the reader quickly recognizes words, he or she can devote more attention to meaning integration processes, leading to text comprehension and retention of information in short-term memory, evidencing reading skills such as information retrieval and relation.

Based on the above, we can begin to reflect on the possible reasons why literal reading comprehension skills represent a learning challenge. One factor to consider is the inadequate reading process applied by students, which makes it difficult to access the meaning of the text. In addition, there is evidence of a lack of application of the rereading technique, which makes it difficult for them to recognize specific information, because they do not return to the text to verify the information requested by an information retrieval item.

At this level of reading comprehension (literal), grades 3 to 6 stand out with a higher average percentage of correct answers. At these educational levels, the educational practices of the subject focus on the development and mastery of language, and the reading strategies implemented by the teaching team are characterized by being playful; in addition, oral reading is practiced more frequently.

On the other hand, at the level of cognitive dimensions, the skills assessed at the level of inferential reading comprehension represent an opportunity for improvement at all levels assessed. Although in some grades a higher average percentage of correct answers is observed, it cannot be considered a learning strength.

This situation is of interest, for example, to reflect on how students apply reading comprehension strategies to execute interpretation and inference skills, since this requires a deep understanding of the text. Students show that, by reading the texts, they are able to access some of the main notions and ideas addressed in the text. They then manage to establish deduction processes, taking into account their creativity and prior knowledge, to reconstruct the text, becoming co-authors of it.

Regarding the theoretical dimensions, the results indicate that students have a better reception of descriptive, expository and narrative texts with a traditional structure.

However, there is some difficulty in fully understanding the communicative situation of literary narrative texts, due to the connotation of the language and the complexity of the structure of the sentences.

On the contrary, in 9th Grade of Basic Education, 1st and 2nd Year of Secondary Education, the interpretation of argumentative texts is a challenge. Particularly, this textual typology has represented an opportunity for improvement in previous years; this type of text is characterized by requiring critical judgment on the part of the reader, in order to evaluate the arguments presented and infer the communicative intention. In addition, students show a lack of mastery in understanding the structure and organization of information in this textual typology.

Finally, it is necessary to take into account that reading is a central skill in education and learning. Each advance in the development of this linguistic macro-skill is a significant step towards the development of communicative competence and the comprehensive development of the student.

6. Institutional results reports

In accordance with one of the purposes of the diagnostic evaluation, which is to provide educational centers with valid and reliable information, based on a standardized instrument of the strengths and challenges in student learning, to support educational processes in the classroom, the results report generated by grade in each participating educational institution presents data that contribute to the identification of areas that are an opportunity for improvement in relation to the dimensions evaluated.

a. Results reports

The information shared with each educational institution is divided into two documents:

- i. Report of results by dimensions (general):* contains summary information on the subjects evaluated and presents useful data for the different educational actors on the academic performance of students and provides a relative reference in relation to the reality of the department in which the institution is located and also at the national level.
- ii. Percentage report by response option in each question (by item):* contains information about each reagent of the evaluation instrument, such as the dimensions that the item explored, the key or correct answer and the percentage of selection of each response option, this with the purpose of identifying the most common errors of students, whether conceptual or procedural.

Examples of documents are provided below:



MINISTERIO DE EDUCACIÓN,
CIENCIA Y TECNOLOGÍA

DIRECCIÓN NACIONAL DE EVALUACIÓN EDUCATIVA

INFORME DE RESULTADOS POR DIMENSIONES
«CONOCIENDO MIS LOGROS ABRIL - 2024»

NOMBRE DE INSTITUCIÓN

DEPARTAMENTO:

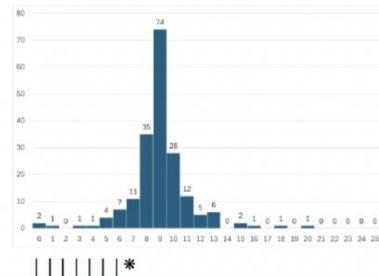
MUNICIPIO:

4. LENGUAJE Y LITERATURA

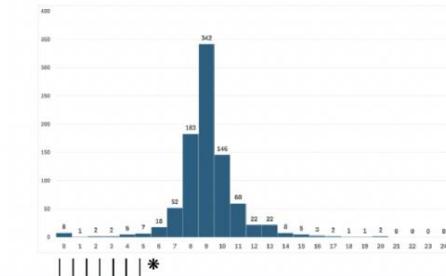
1B PRIMER AÑO DE BACHILLERATO

ESPERADOS:	25	PARTICIPANTES:	10	% ASISTENCIA:	40.00%
Puntaje (Valor estandarizado de la institución)	372	Percentil de la institución en departamento	14	Percentil de la institución en el país	11
Rendimiento institución:	26.00%	Rendimiento departamento:	36.00%	Rendimiento nacional:	36.00%

Aciertos: Institución / departamento



Aciertos: Institución / país



DIMENSIÓN TEÓRICA

RENDIMIENTO INSTITUCIÓN RENDIMIENTO DEPARTAMENTO RENDIMIENTO PAÍS

1. Texto dialógico: Tragedia	26.00%	42.00%	36.00%
2. Texto dialógico: Drama	26.00%	47.00%	40.00%
3. Texto expositivo	20.00%	42.00%	36.00%
4. Texto argumentativo	26.00%	46.00%	36.00%
5. Editorial	34.00%	36.00%	32.00%

DIMENSIÓN COGNITIVA

RENDIMIENTO INSTITUCIÓN RENDIMIENTO DEPARTAMENTO RENDIMIENTO PAÍS

1. Comprensión lectora literal	31.00%	35.00%	35.00%
2. Comprensión lectora inferencial	23.00%	37.00%	37.00%



MINISTERIO DE EDUCACIÓN,
CIENCIA Y TECNOLOGÍA

NATIONAL DIRECTORATE OF EDUCATIONAL EVALUATION

PERCENTAGE REPORT BY ANSWER OPTION IN EACH QUESTION

«KNOWING MY ACHIEVEMENTS APRIL - 2024»

NOMBRE DE INSTITUCIÓN:

4. LENGUAJE Y LITERATURA

2B

SEGUNDO AÑO DE BACHILLERATO

ESPERADOS: 22		PARTICIPANTES: 22		% ASISTENCIA: 100.00%			
ÍTEM	DIMENSIÓN TEÓRICA	DIMENSIÓN COGNITIVA	CLAVE ACIERTOS	A	B	C	D
1	1. Texto narrativo	1. Comprensión lectora literal	C	27.27%	13.64%	22.73%	27.27%
2	1. Texto narrativo	1. Comprensión lectora literal	C	31.82%	4.55%	13.64%	31.82%
3	1. Texto narrativo	1. Comprensión lectora literal	D	27.27%	18.18%	13.64%	9.09%
4	1. Texto narrativo	2. Comprensión lectora inferencial	C	36.36%	4.55%	22.73%	36.36%
5	1. Texto narrativo	2. Comprensión lectora inferencial	B	13.64%	9.09%	13.64%	18.18%
6	2. Texto expositivo	1. Comprensión lectora literal	D	18.18%	4.55%	13.64%	18.18%
7	2. Texto expositivo	1. Comprensión lectora literal	D	13.64%	13.64%	4.55%	18.18%
8	2. Texto expositivo	2. Comprensión lectora inferencial	A	22.73%	22.73%	13.64%	9.09%
9	2. Texto expositivo	2. Comprensión lectora inferencial	B	22.73%	9.09%	22.73%	18.18%
10	2. Texto expositivo	2. Comprensión lectora inferencial	A	22.73%	22.73%	13.64%	13.64%
11	3. Texto propagandístico	1. Comprensión lectora literal	A	9.09%	9.09%	4.55%	4.55%
12	3. Texto propagandístico	1. Comprensión lectora literal	C	27.27%	9.09%	4.55%	27.27%
13	3. Texto propagandístico	2. Comprensión lectora inferencial	C	13.64%	4.55%	27.27%	13.64%
14	3. Texto propagandístico	2. Comprensión lectora inferencial	D	18.18%	18.18%	0.00%	13.64%
15	3. Texto propagandístico	2. Comprensión lectora inferencial	A	9.09%	9.09%	18.18%	0.00%
16	4. Texto poético	1. Comprensión lectora literal	D	9.09%	4.55%	18.18%	9.09%
17	4. Texto poético	1. Comprensión lectora literal	A	13.64%	13.64%	13.64%	4.55%
18	4. Texto poético	2. Comprensión lectora inferencial	B	22.73%	9.09%	22.73%	0.00%
19	4. Texto poético	2. Comprensión lectora inferencial	B	18.18%	13.64%	18.18%	0.00%
20	4. Texto poético	2. Comprensión lectora inferencial	D	9.09%	18.18%	9.09%	4.55%
21	5. Texto argumentativo	1. Comprensión lectora literal	C	13.64%	4.55%	9.09%	13.64%
22	5. Texto argumentativo	1. Comprensión lectora literal	C	18.18%	9.09%	9.09%	18.18%
23	5. Texto argumentativo	2. Comprensión lectora inferencial	A	4.55%	4.55%	13.64%	13.64%
24	5. Texto argumentativo	1. Comprensión lectora literal	D	13.64%	4.55%	9.09%	9.09%
25	5. Texto argumentativo	2. Comprensión lectora inferencial	C	4.55%	9.09%	9.09%	4.55%
PROMEDIO ACIERTOS				17.64%			

b. Orientation guide

As input for the interpretation of institutional results reports, a *Technical Guidelines Guide was designed* that defines each of the data presented, as well as approaches to interpretations, which can be downloaded at the following link: https://n9.cl/guia_de_orientaciones_tecnicas

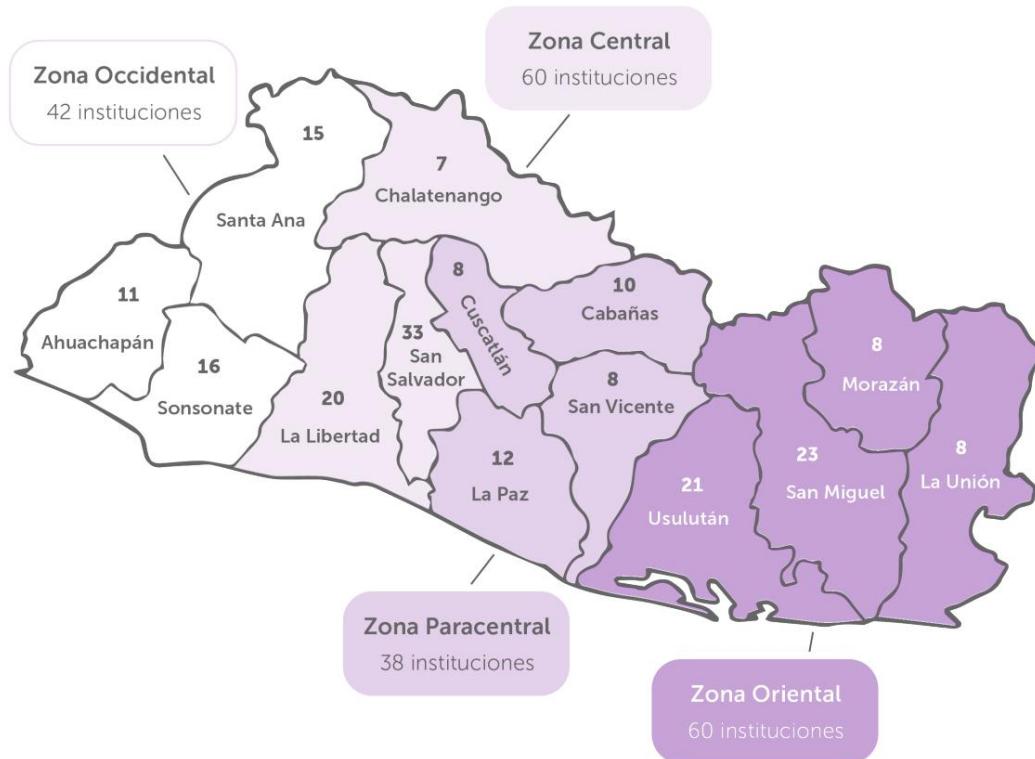
7. Educational Research in Mathematics

The research in the subject of Mathematics was carried out as part of the diagnostic evaluation process that aims to support the collection of valid and reliable information on student learning from standardized instruments.

In this sense, since its inception in 2021, the Conociendo Mis Logros tests have been carried out virtually and have been applied by each institution; however, a controlled and sample application is necessary to determine if there is any degree of bias or error in the census results, due to external factors that may be influencing them.

In this sense, educational research was implemented starting in 2023, in a sample of 191 educational institutions in grades 4, 6 and 7, in the 14 departments of the country; while for the year 2024 it was carried out in a sample of 90 educational institutions, selected from the 191 of the previous year, in order to identify any trend and guarantee the comparison of results; in 2023 it was carried out with a printed test. The application was developed by a technical team from the Ministry of Education, who had the role of applicators.

Below is the number of institutions participating in the 2023 research, distributed by department and geographic area.



Source: Ministry of Education – National Directorate of Educational Evaluation.

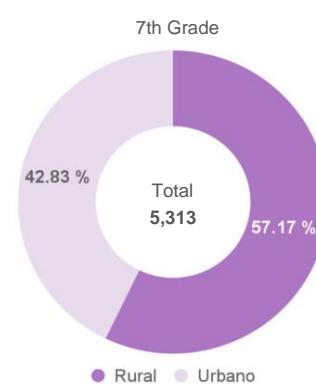
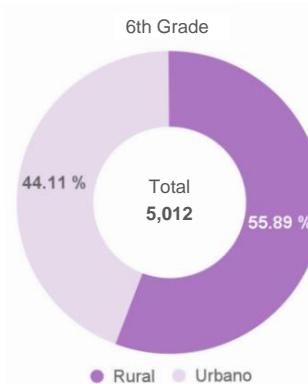
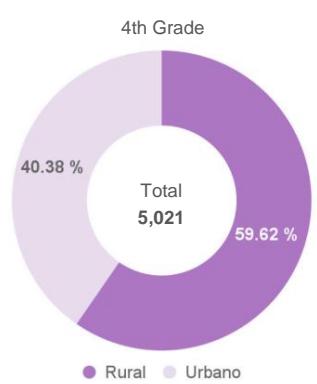
Of the participating institutions, 70% were from the rural sector and 30% from the urban sector, distributed proportionally in each department, thus obtaining the following student participation.

Table 2. Participation of educational centers by department and sector

Participation Department		Public	Private	Urban	Rural
Ahuachapán	324	276	48	140	184
Saint Anne	387	314	73	125	262
Sonsonate	430	370	60	175	255
Chalatenango	208	208	0	153	55
Freedom	401	371	30	83	318
San Salvador	757	648	109	450	307
Cuscatlan	228	228	0	50	178
Cabins	239	239	0	114	125
Peace	289	289	0	62	227
Saint Vincent	199	199	0	58	141
Usulutan	559	529	30	215	344
Saint Michael	574	522	52	228	346
Morazan	208	208	0	90	118
The Union	218	218	0	90	128

Source: Ministry of Education – National Directorate of Educational Evaluation.

Below is the participation of students by grade, distributed by area.



Source: Ministry of Education – National Directorate of Educational Evaluation.

Regarding the results by theoretical and cognitive dimension in Seventh Grade, what was obtained in the census test (virtual) and in the sample test (printed and monitored) is presented in a general way.

Theoretical dimension	Hit percentage (census)	Hit percentage (sample)
Arithmetic	41.51 %	35.73 %
Geometry	42.46 %	39.00 %
Measures	44.93 %	40.06 %
Statistics	27.19 %	11.92 %

Source: Ministry of Education – National Directorate of Educational Evaluation.

It is observed that the results of the physical and monitored application are lower, highlighting Statistics.

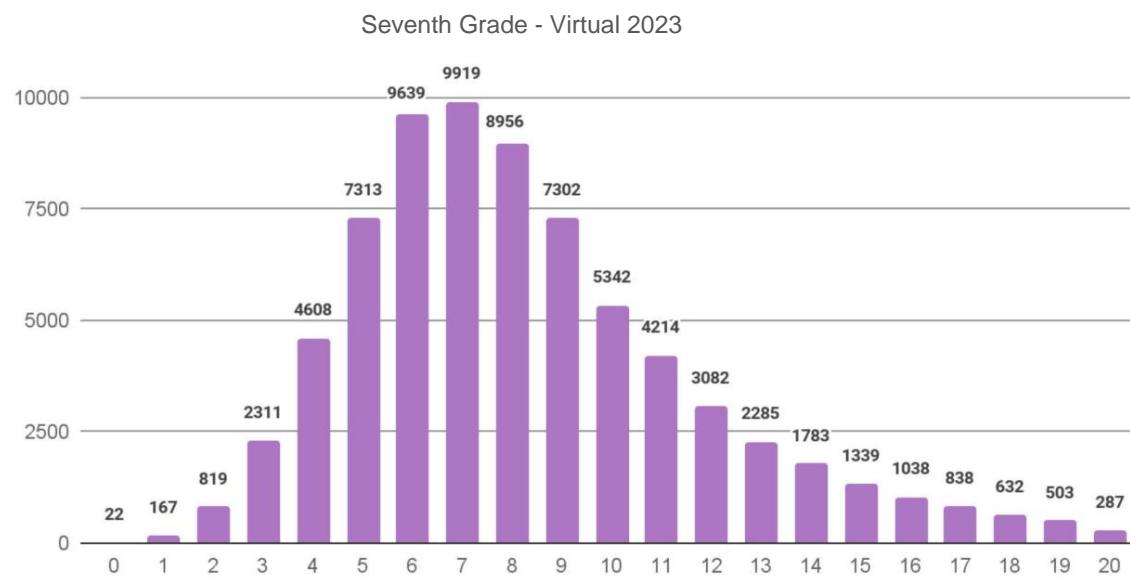
Regarding the results by cognitive dimension, the following is obtained.

Cognitive dimension	Percentage of success (census)	Percentage of success (sample)
Knowledge	38.64 %	30.07 %
Application	44.46 %	41.40 %

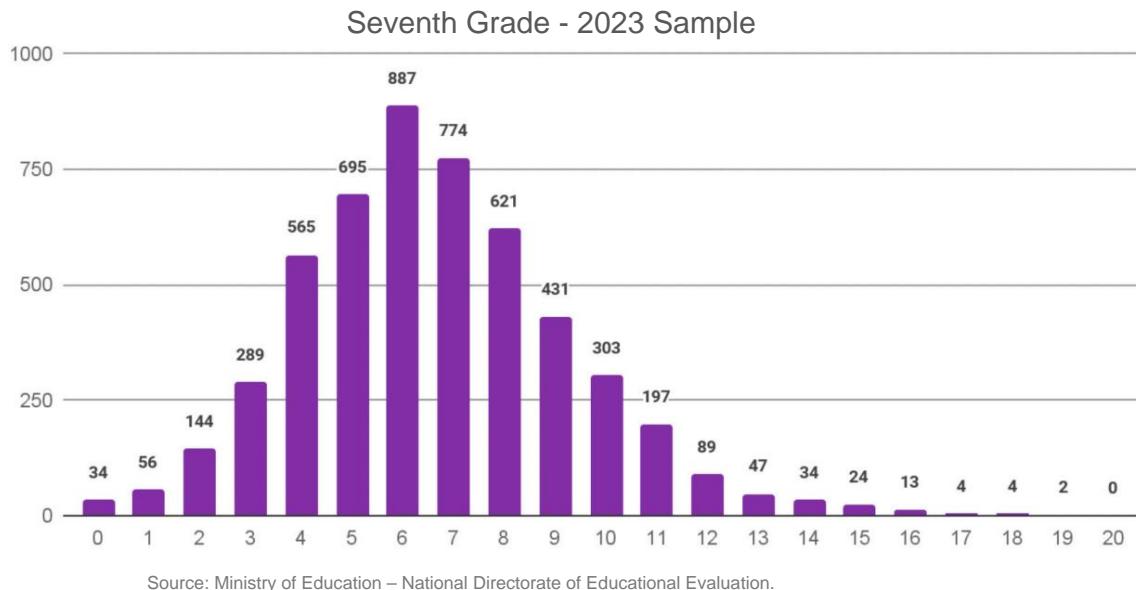
Source: Ministry of Education – National Directorate of Educational Evaluation.

As in the previous case, the results are lower in the sample application, with a considerable difference in the Knowledge dimension.

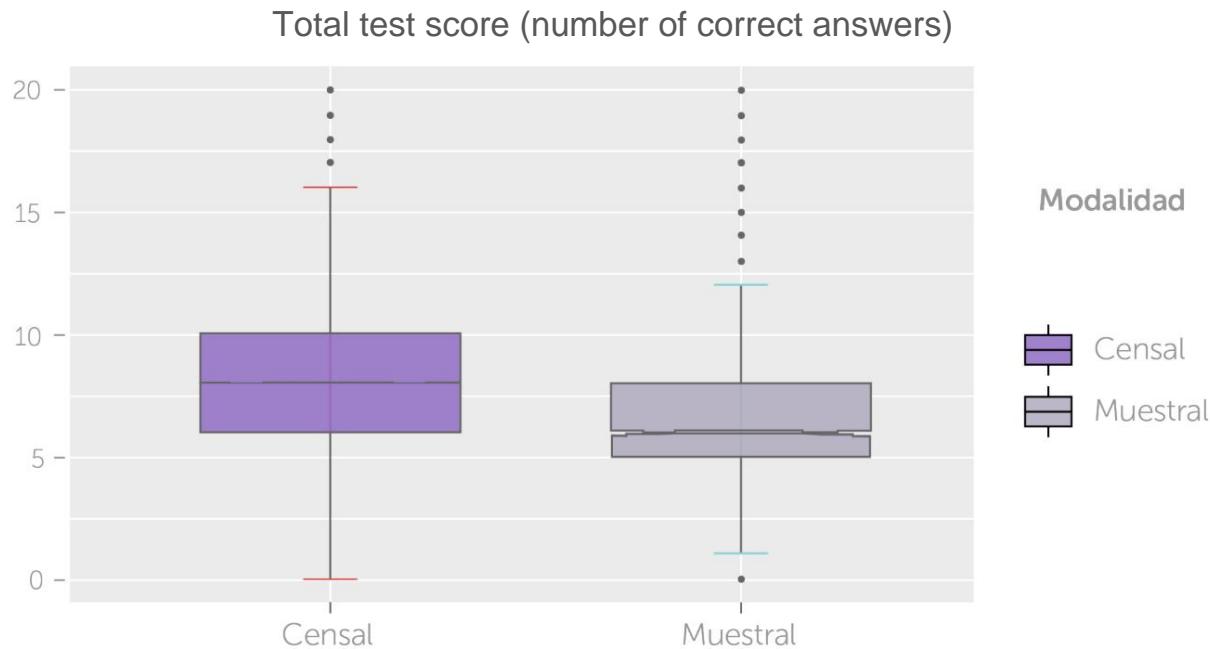
The instrument had 20 items in common, so the student could get between 0 and 20 correct answers. Below is the distribution of students by number of correct answers in the test for the census and sample application.



Source: Ministry of Education – National Directorate of Educational Evaluation.



In the graph above, a similar distribution can be observed; however, it is noticeable that in the sample, the values further to the right have a lower proportion than in the census. In this sense, in the virtual application, an average of 8.22 (41.10%) correct answers was obtained with a standard deviation of 3.38, while in the sample, an average of 6.64 (33.20%) and a standard deviation of 2.68. The difference between the means is considerable, and it also presents greater variability in the census. The box diagram is shown below.



Finally, by applying different statistical methods, it is determined that the difference between the results is statistically significant. Therefore, there is evidence that there are factors that are significantly influencing the census results.



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