



REVISTA

# CÁTEDRA

## Chakana as an intercultural methodological instrument for strengthening reading comprehension

### *La Chakana como instrumento metodológico intercultural de fortalecimiento de la comprensión lectora*

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### Abstract

In the educational field there is a great variety of methodologies aimed at improving the teaching-learning process, which has usually been centered on the traditional methodology of knowledge transmission. However, recent times have revealed a new way of interacting with knowledge with alternative proposals. In this sense, the Andean Chakana is an alternative didactic resource that can improve the critical or reflective thinking of students, which contributes significantly in different subjects such as Literature, a field that within the present study has been approached taking into account reading comprehension, a fundamental factor to acquire knowledge as well as to reinforce it. In this sense, the main results showed that the level of reading comprehension in 5th grade students of the "Cardenal Spínola Fe y Alegría" educational unit has deficiencies in vocabulary, sentence construction, but mainly, deficiencies in literal reading. In addition, teachers do not know the intercultural methodological instrument Chakana. It is thus concluded that in the face of the evidenced shortcomings and according to the benefits offered by this alternative methodology under the Andean cosmovision, the Chakana forges spaces for an integral education such as learning in harmony according to the use of its colors, principles and dimensions; being, in this way, of great utility in the field of reading comprehension, where



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this instrument facilitates to deepen on a previous text a process that involves harmonizing the knowledge, by putting the student in contact with nature.

## Keywords

Chakana, reading comprehension, intercultural education

## Resumen

En el ámbito educativo existe gran variedad de metodologías orientadas a mejorar el proceso de enseñanza-aprendizaje que usualmente ha estado centrada en la metodología tradicional de transmisión de saberes. Sin embargo, los últimos tiempos han develado una nueva mirada de interactuar con los conocimientos con propuestas alternativas. En este sentido, la Chakana andina es un recurso didáctico alternativo que puede mejorar el pensamiento crítico o reflexivo de los estudiantes que aporta significativamente en distintas asignaturas como la Literatura, un campo que dentro del presente estudio ha sido abordado tomando en cuenta la comprensión lectora, un factor fundamental para adquirir conocimientos como reforzarlos. En este sentido, los principales resultados evidenciaron que el nivel de comprensión lectora en los estudiantes de 5to. año de Educación Básica de la unidad educativa “Cardenal Spínola Fe y Alegría” tiene falencias en vocabulario, construcción de oraciones, pero principalmente, deficiencias en la lectura literal. Además, los docentes desconocen el instrumento metodológico intercultural la Chakana. Se concluye así que frente a las falencias evidenciadas y conforme las bondades que ofrece esta metodología alternativa bajo la cosmovisión andina, la Chakana forja espacios para una educación integral como el aprender en armonía conforme el uso de sus colores, principios y dimensiones; siendo, de esta forma, de gran utilidad en el campo de la comprensión lectora, donde este instrumento facilita profundizar sobre un texto previo un proceso que involucra armonizar los saberes, al poner en contacto al estudiante con la naturaleza.

## Palabras clave

Chakana, comprensión lectora, educación intercultural.

## 1. Introducción

The experiences of intercultural pedagogical practice in Latin America reveal that intercultural pedagogical inclusion initiatives have been a theme that not only vindicates indigenous struggles, but also makes visible those aspects that indigenous communities can contribute in the educational field, in fact, this suggests that such practices contribute significantly to improving knowledge in various areas, including reading comprehension; a problem that in the region presents great challenges for students, teachers and the education system in general that, although "theoretical and practical knowledge about reading and its teaching has proliferated remarkably" (Shanahan and Lonigan, 2010, cited in Orellana, 2018, p. 15), the implementation in the classroom has manifested itself slower and uneven trying, even, to repair shortcomings of the teachers themselves who are in training. It is also observed gaps in the inclusion of more efficient pedagogical strategies, where ancestral wisdom, such as Chakana, has also not been considered in the field of education. This is evident, above all, because in the classroom and now in the virtual classroom the traditional methodology is still used, which reflects limited educational proposals with methodological tools from spaces such as interculturality, in areas such as Language and Literature, and more specifically in reading comprehension, a space in which students need an adequate level to abstract knowledge in a better way.



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The above leads to break the traditional canons of teacher-centered education under a model of linear memoristic teaching that is still used in countries like Ecuador, for another that promotes meaningful learning from the contribution that students can give to the educational process, as protagonists of the knowledge they acquire in the course of their student life, where the proposal from the pedagogy with intercultural approach becomes an encounter and permanent dialogue of knowledge, in which knowledge is built based on other discourses from diverse ethnic and cultural groups.

The reality of intercultural pedagogical practice in the national context reveals that in the country "there are important antecedents of the struggle to achieve the construction of an intercultural education system that makes visible the history and knowledge of indigenous peoples" (Di Caudo, Llanos and Ospina, 2016, p. 167). This has been a proposal that at the Latin American level has given impetus to inclusive policies that incorporate an approach that values the contribution that ancestral knowledge, such as the Chakana, can make to knowledge; therefore, it has become a line of action to make these intercultural methodological tools visible in the educational sphere.

The National Plan for Good Living 2017-2021 in Ecuador establishes in its objective 1, "to guarantee a dignified life with equal opportunities for all" (Senplades, 2017, p. 53), as the right to grant to all, a dignified life with equal opportunities. This in the educational sphere means promoting spaces for inclusion, comprehensive development and continuous and quality learning. "Similarly, it reveals the need to promote and strengthen education with cultural, linguistic and environmental relevance, which addresses the specific educational needs of peoples and nationalities" (Senplades, 2017, p. 55). The above, in effect, means to promote intercultural bilingual education in order to vindicate the achievements of the peoples and nationalities of Ecuador in the face of the homogenizing process of the West, in addition, to give value to the proposals that from ancestral wisdom can contribute to education. To this end, it is necessary to promote educational plans and projects aimed not only at training teachers in active methodologies with a focus on intercultural bilingual education practices, but especially the contribution that Andean wisdom such as the Chakana can contribute to the process.

Thus, in the research, which is the result of a thesis, the research questions are: how does the Chakana, an intercultural methodological instrument, strengthen reading comprehension in 5th grade students of the "Cardenal Spínola Fe y Alegría" educational unit in Quito? what are the essential factors of the Chakana as an intercultural methodological instrument? What degree of reading comprehension do the students have, and what intercultural educational proposal from the Chakana strengthens reading comprehension in the students of 5th year of Basic Education of the educational unit "Cardenal Spínola Fe y Alegría in Quito"? The main objective is to investigate the Chakana as an intercultural methodological instrument to strengthen reading comprehension in 5th grade students of the "Cardenal Spínola Fe y Alegría" educational unit, and the specific objectives are to identify the essential factors of the Chakana as an intercultural methodological instrument; to determine the degree of reading comprehension in students, and to design from the Chakana, an intercultural educational proposal to strengthen reading comprehension. It is thus understood the importance of promoting other teaching methodologies with a focus on ancestral wisdom, as part of the intercultural proposal in education, since if adequate levels of reading comprehension are not achieved in the classroom, in practice the student will not be acquiring significant learning.



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In this sense, the limitations of this research are mainly due to the insufficient bibliography related to the Chakana methodology, since it is a teaching process that is little addressed in formal education. However, it is a great challenge to propose a proposal aimed at forging reading comprehension in students according to the parameters of an intercultural methodological instrument, understanding that within the teaching-learning process it is vital to understand what is read; therefore, the purpose of the study is to offer a methodological alternative from the ancestral wisdom to the difficulty that students have in reading comprehension.

Thus, the structure of this article begins with the introductory part, in which the experiences of intercultural pedagogical practice in Latin America and Ecuador, the research questions and the objectives of the study are presented. In the second point, a bibliographic review is made on topics such as the Chakana, an alternative teaching method, essential aspects of Andean symbology: its colors and dimensions; definition and scope of reading comprehension. In the third point, the section on methods and materials is developed, that is, the approach and design of the research, as well as the description of the sample and the context of the research. This is followed by the results: analysis and discussion, a step that allows, finally, to present the conclusions.

## 2. Literature review

### 2.1 2.1 The Chakana as an intercultural methodological tool. Alternative teaching method

The pedagogical proposals that have been put forward throughout history have been varied. This with the purpose of proposing more useful alternatives to enrich the teaching-learning process, from a teaching action that provokes significant knowledge towards quality education. In this sense, from the point of view of Pérez, Africano, Febres-Cordero and Carrillo (2016) alternative pedagogies in general, "are a set of innovative strategies that open paths to positions based on educational trends that claim to be renovators of the educational fact" (p. 237) and in the specific case of the Chakana it is framed within the so-called alternative pedagogies, posed as an intercultural methodological tool, which takes as a basis the constructivist approach by actively involving the student in learning.

Indeed, within the educational context, the Andean Chakana is used as a didactic resource that favors learning, being a facilitator to forge critical and reflective thinking, thus becoming "an icon not only of culture, but also of deep knowledge of multiple areas ranging from exact sciences such as mathematics to social sciences through natural sciences and literature" (Escandón and Rivera, 2020, p. 26); therefore, the symbol is proposed as an alternative to promote interdisciplinarity. It is thus understood that in the face of the great variety of didactic pedagogies that are proposed as alternative teaching methods, the Chakana becomes an interesting proposal that from the Andean vision promotes a new type of teaching that forges the knowledge of the learner from the particularity of its millenary symbology.

#### 2.1.1 Andean Symbology

According to Puma (2014), "the Inca empire developed its culture assuming the Chakana as a model of territorial organization and ritual symbol associated with wisdom" (p. 15). Thus, translated into Spanish as Cruz del Sur is represented in a square shape with 12 points and eight edges, whose essence according to Escandón and Rivera (2020) symbolizes from the indigenous worldview, the harmonious relationship between nature and the cosmos widely related to social organization and agricultural production. In addition, it means the bridge or stairway, where it is 4000 years old. This symbol can be seen in the fabric of the Aymara



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culture, which preserves the 13 moons of the year, with 28 days each. The Andean cross has a geometric shape of a perfect Latin cross. The Andean Chakana not only can perceive architectural or geometric concepts, but also acquires the meaning of "stairway to the highest" (Escandón and Rivera, 2020, p. 27).

It thus constitutes the synthesis of the Andean cosmovision with a complex multiple use; linked, in addition, to the seasons of the year from the astronomical concept, in essence:

The Andean cross is the image that invites to coexistence with nature, to respect the water and all that mother earth does to give food to her children. "The chacana signifies our experience, and how we must conserve Mother Nature for our children, grandchildren and for all those to come," says Samuel. The taitas hang an Andean cross from their necks. Taita Yaku carved his own chacana out of rosewood. It is a chacana that has its white part and its dark part, this is how it represents duality, whether it is good and evil, man and woman, etc. (El Mercurio, 2017, para. 1) (See Figure 1).



Figure 1. The Chakana: Confederation of the Cayambi People

Thus, as part of the Andean symbology, the Chakana promotes the integrality of the human being in its different dimensions from the construction of ancestral knowledge, where it harmoniously integrates the elements of nature that has lasted until today assuming different roles within the Andean cultural context.

### 2.1.2 Colors

From the indigenous cosmovision, the colors of the rainbow "have a transcendence in the development and union among the peoples" (Vinueza, 2016, p.27) expressed in the wiphala



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(symbol of Andean philosophy); where its 49 strokes "are closely related to the Andean Chakana, because it creates parity order to the Andean cosmogonic world, from the masculine-feminine duality or yanantin and from the double duality or Tawantin divided into four quadrants" (Quispe, 2017, para. 3). In this sense, the colors of the Chakana constitute the most representative element of the identity of indigenous peoples acquiring a particular meaning by enhancing the importance of the duality of people, mother earth, time, space, among others that, embodied in a geometric figure, in past times was used as a resource for fields such as religious, philosophical, social sciences and mathematics.

The colors of the Chakana for Mayanza (2019) reflect the ancestral vision on the importance of the knowledge of the Andean man as the value of cultures and human life, that is, its preservation and procreation; "as well as nature: its wealth for the benefit of the peoples and the moral principles (from the Andean cosmovision) that every human being practices" (Mayanza, 2019, p. 4).

In the educational field, according to Gualavisí (2018) it is represented by five colors: red, yellow, blue, green and white redistributed as follows:

Yellow: Fine and gross motor development area, hard texture, rhombus shape, earth element, percussion, feeling of security, medicinal plant Chamomile, sweet taste, sense of taste, Alli Ruray.

Red: Area of Socio-Affective development, smooth and rough texture, the figure of the square, the element of fire, the sound of the voice, feeling of love, medicinal plant lemon verbena, sour taste, sense of smell, Alli Yananti.

Blue: Cognitive development area, soft texture, rectangle figure, water element, rattle, feeling of fear, medicinal plant zunfo, salty taste, sense of hearing, Alli Yachay.

Green: Language development area, rough texture, triangle figure, wood element, strings, feeling of anger, medicinal plant Ruda, bitter taste, sense of touch, Alli Rimani.

White: smooth texture, circle figure, air element, feeling Peace, medicinal plant Rosemary, sense of sight, spicy taste (p. 18).

In essence, the central role of colors in the teaching-learning model is aimed at transforming a society in unequal conditions by articulating both the ancestral wisdom expressed, according to Castro (2017) in its four dimensions, wanting muñaña, knowing yatiña, doing luraña, and being able to atiña with the science of the West.

### 2.1.3 Dimensions

Within traditional thinking, concepts such as knowing (knowledge), knowing how to know (internalizing knowledge), knowing how to do (skills), knowing how to be (development of attitudes), knowing how to live together (development of social competencies); are part of the competencies focused on the new education model that takes as a basis the globalizing process focused on improving productivity and competitiveness of human capital, and within it, social recognition. However, within the Andean cosmovision, the Chakana takes into account the following dimensions:

- Knowing how to transcend-to wish-to say



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- Knowing how to be
- Knowing how to do
- Knowing how to think
- Knowing how to emote/corazonar

It is understood that, under this conception, the individual is in the capacity to develop, within the Chakana approach, the tool that privileges aspects such as coexistence, harmony of being, the sense of community and equality.

## 2.2 Reading comprehension

The term reading comprehension has been addressed by a number of researchers who have not found a single and agreed definition, so according to Fuentes (cited by Amaya, 2017), it has been defined in different ways according to the methodological orientation, thus reinforcing the idea that it is a complex process widely associated with the act of reading; where, reading is a procedural activity and that reading comprehension, on the other hand, refers to the psychological processes performed by each individual, where motivation "is a central pillar in determining the efficiency of their ability to understand what they read" (Amaya, 2017, p. 20). It is thus understood that the action of reading is relevant for the acquisition of new knowledge as the reinforcement of others, as long as the process is performed in depth, where the student when transcending to the stage of understanding a text must have previous knowledge as skills to grasp; so that "in this interactive complexity, several processes -perceptual, cognitive and linguistic- are involved, and the reader must infer information at various levels of processing, not only in the most basic, superficial or explicit ones (Núñez and Donoso, 2000, cited by Herrera, Hernández, Valdés and Valenzuela, 2015, p. 128 ).

The above suggests understanding that, just as reading is a complex process, so is reading comprehension, which involves three levels: literal, inferential, and critical, for which a series of skills are required. In this sense, it is essential that an effective process towards the acquisition of meaningful learning involves strategies and methodological tools based on constructivism, which takes into account the student as the protagonist in the teaching process.

## 2.3 The Chakana: as a tool for text comprehension

As the Chakana is understood as a millenary symbol coming from the Andean cultures, it contains a series of opposing but complementary elements, which according to Torres (2015) explains the Andean worldview based on elements such as "masculine/feminine, sky/earth, sun/moon, north/south, up/down, time/space" (p. 28). In this sense, for Coarite (2014), within the educational field, the Chakana is a skillful tool for areas such as text comprehension, where:

The two tasks of reading to write are made possible by the use of the Chakana as a text analysis tool. The text is read with the Chakana model, that is, the text is analyzed with the tool. The activity of reading with the Chakana brings the task of writing, interpreting the parity of meaning. Writing can derive in the structuring of different types of texts, for example: precise, reviews, commentaries, essays, and monographs. Consequently, thanks to the analysis tool, reading and writing activities are carried out simultaneously (para. 28).

In this way, the Chakana takes as its center the text, whose problems around it are solvable by means of this tool; however, it is necessary that there be on the part of the reader the



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interest in reading towards the deployment of the strengthening of a critical reading; where for Coarite (2014), comprehension gives way to the reciprocal and complementary parity of meaning, and that understanding the subject starts with a critical position, which is what is of interest in reading comprehension. In this sense, the so-called development of the vivencia or learning experience is present in the Chakanic sequence, whose process addresses four steps: "Step 1: Vivencia from close to life (red). Step 2: Description and meanings, use of resources (blue). Step 3: Augmentations and yapas (green). Step 4: Vivenciad of what has been learned (yellow)" (Confederation of the Kayambi people, 2018, p. 26). This learning experience applied to the context of reading comprehension involves, according to Coarite (2014), taking into account the following aspects: at the center of the Chakana is the text, the problem to be solved, secondly, the person's willingness to read is essential. Third, "comprehension brings the reciprocal and complementary parity of meaning, which occurs in the center of the Chakana, is noted in the Taypi" (para. 32) and, finally, in the face of what has been understood, a critical position is assumed that makes it possible to argue.

### 3. Methods and materials

In the research work, the mixed approach was applied, i.e., qualitative and quantitative; the same that according to Hernández, Fernández and Baptista (cited by Otero, 2018) make use of a systematic, rigorous and empirical process to produce knowledge. In this sense, the quantitative approach uses numerical measurement to analyze a reality, where "it begins with defining an idea that goes delimiting the sequential systemic process that the researcher gives to the scientific rigor that he puts in the search for new knowledge" (p. 10). Thus, within the present study, the quantitative approach has served as a basis for obtaining more information about the level of reading comprehension in fifth grade students of the "Cardenal Spínola Fe y Alegría" educational unit.

Regarding the qualitative approach, Hernández-Sampieri, Fernández and Baptista (2013), point out that it is based on the interpretative perspective of the reality addressed, where "the qualitative researcher uses techniques to collect data, such as unstructured observation, open interviews, document review, group discussion, evaluation of personal experiences, recording of life stories, and interaction and introspection with groups or communities" (p. 9); the usefulness of this approach in the present research was given by allowing the analysis of information obtained from the interview technique, from which the variable of the Chakana was investigated.

Finally, the descriptive level of research is taken as a basis, which "is carried out when one wishes to describe, in all its main components, a reality" (Guevara, Verdesoto & Castro, 2020, p. 165), where in this research it is used to describe the variables: reading comprehension and the Chakana in the educational environment.

#### 3.1 Description of the sample and the research setting

Within the use of the test, the population used was the students of the fifth year of Basic Education of the educational unit "Cardenal Spinola Fe y Alegría", a total of 21 students belonging to this level, where a sample was not taken because of the small number of students.

The school belongs to the province of Pichincha, canton Quito, and is located on Marcelo Spinola Avenue Oe3-102 and Lorenzo Flores. The school has a morning schedule from 07h00 to 12h45. It operates from first grade to third grade of high school, and additional subjects such as English, art and religion are taught.



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In relation to the interview, two technical experts from the intercultural dedication of the Cayambi people's confederation and two teachers from the "Cardenal Spínola Fe y Alegría" school were interviewed."

## 4. Results

### 4.1 Student research: evaluation test

This section analyzes the results obtained from the reading comprehension test administered to the students according to the following scale:

- a) a) Scale of 0-1 correct answer: low
- b) b) Scale of 2-3 correct answers: medium
- c) c) Scale of 4-5 correct answers: high

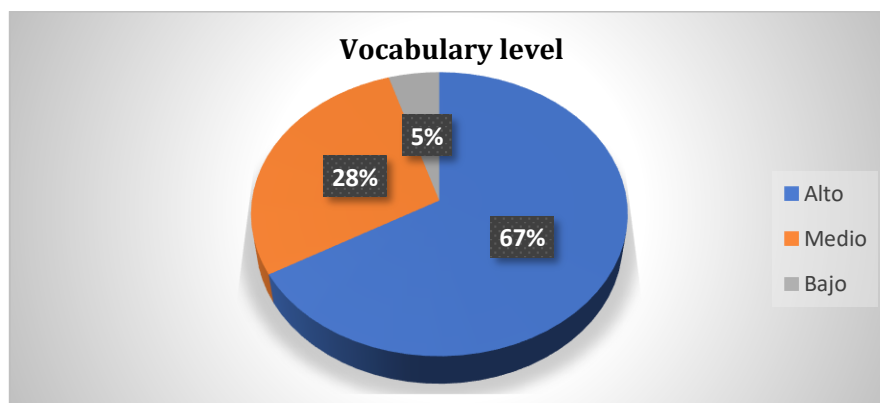


Figure 2. Vocabulary level

In relation to knowing the students' vocabulary level, 67% have a high level, 28% a medium level and 5% a low level. The results indicate that, in general, among the group addressed, this point is mostly strengthened, a positive aspect when it is understood that knowing the meaning of words contributes to a better understanding of a text and, therefore, does not result in a situation that frustrates their learning.

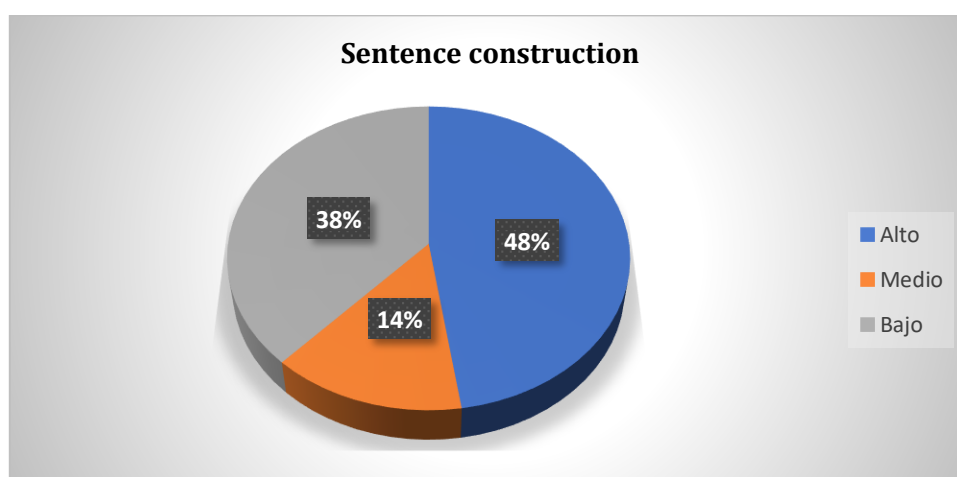


Figure 3. Sentence construction



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With respect to knowledge of the ability to construct sentences, 48% have a high level, 14% a medium level and 38% a low level. It is thus inferred that this point needs more attention, since the results are less positive in relation to the level of vocabulary previously analyzed.

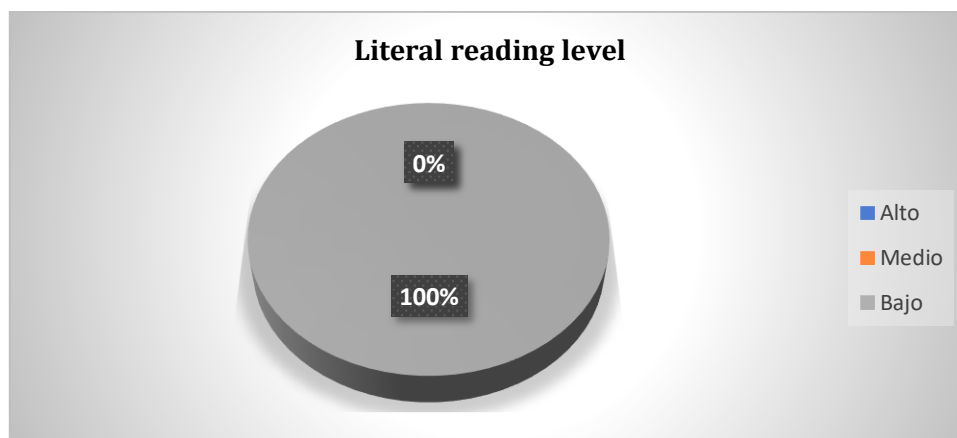


Figure 4. Literal reading level

In relation to knowing the type of literal reading, it can be seen that 100% have not reached this point, since when indicating that within the paragraph exposed on the work Huasipunga answer the characters of the story, the time in which the story takes place and the place of the story; there were strong shortcomings of response. The above leads to determine that it is necessary to strengthen this aspect in reading comprehension, being so far the weakest point evidenced in the test conducted in the fifth year of elementary school students.

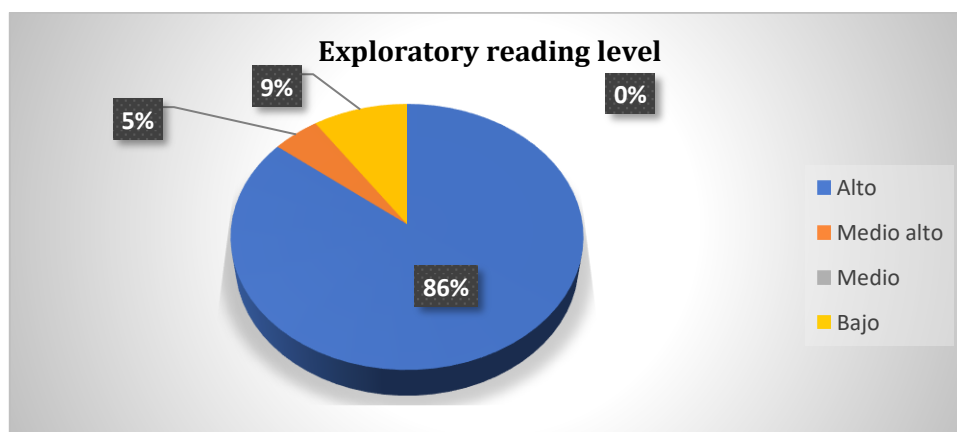


Figure 5. Exploratory reading level

With respect to knowing the level of the type of exploratory reading, 86% had a high percentage, 9% had a low percentage, 5% had a medium-high percentage and none obtained a medium score. Thus, it can be seen that this is the most positive result achieved in the group of all the points addressed so far, since they were able to answer extensively the title of the text, the chapters it contains, its author and type of story according to the options presented (Jorge Icaza, indigenist, none and Huasipungo, etc.).



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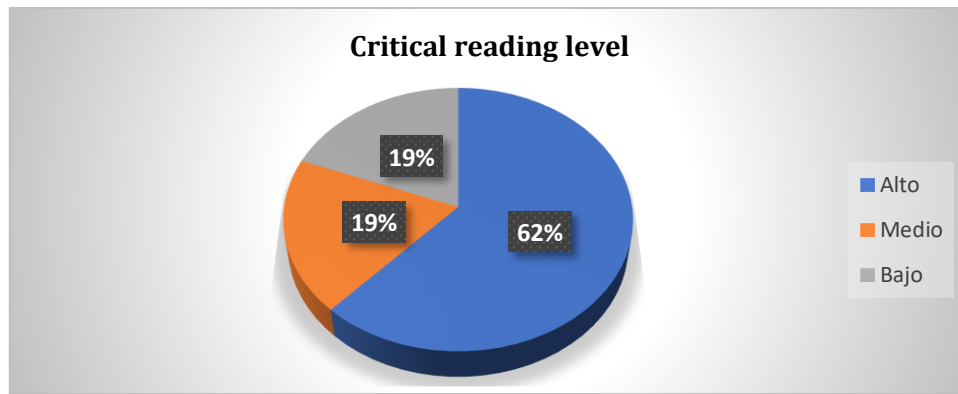


Figure 6. Critical reading level

Finally, regarding the critical level, 62% have a high level, 19% a medium level and 19% a low level. Thus, it can be deduced that, within this aspect, students achieve a moderately positive score, but that it still needs to be reinforced.

#### 4.2 Teacher interview analysis

Within this point we have taken into account the interview with two teachers from an educational center in the country, to whom codes have been assigned (interviewee 1 and interviewee), in order to maintain confidentiality. Thus, in order to determine the degree of knowledge they have about the Chakana (its definition), the results were as follows:

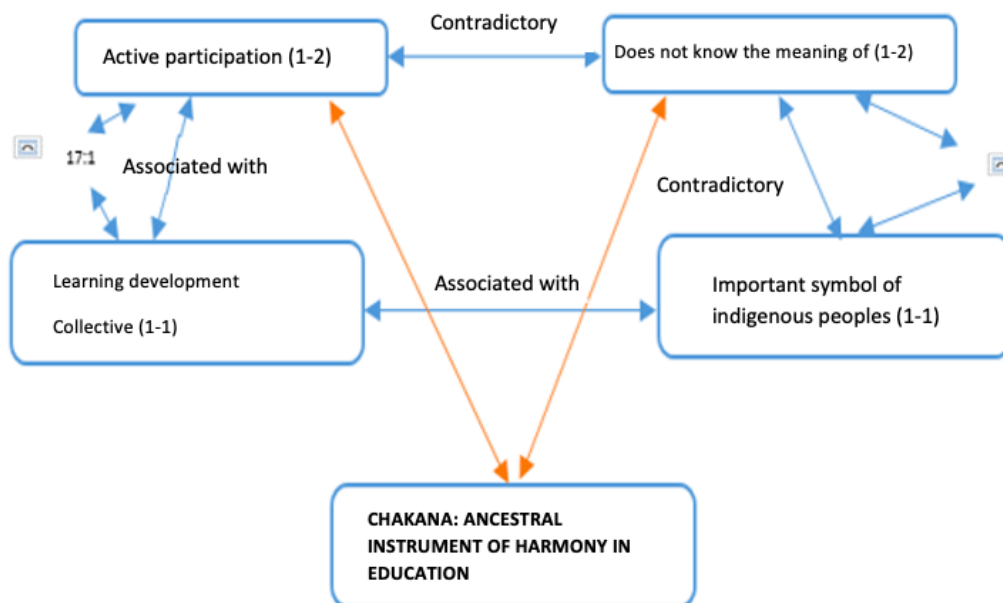


Figure 7. The Chakana: an ancestral instrument of harmony in education

Figure 7 shows that there is a knowledge base about it, understanding that one of them stated that it encourages participation, is part of the development of collective learning, and the second stated that he has a general knowledge about the Chakana. "It is a very important symbol for indigenous peoples; however, I have not been aware that it serves as a harmonization tool" (Interviewee 1, interview, September 28, 2021).



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With respect to knowing the educational experiences from ancestral wisdom, the following was obtained:

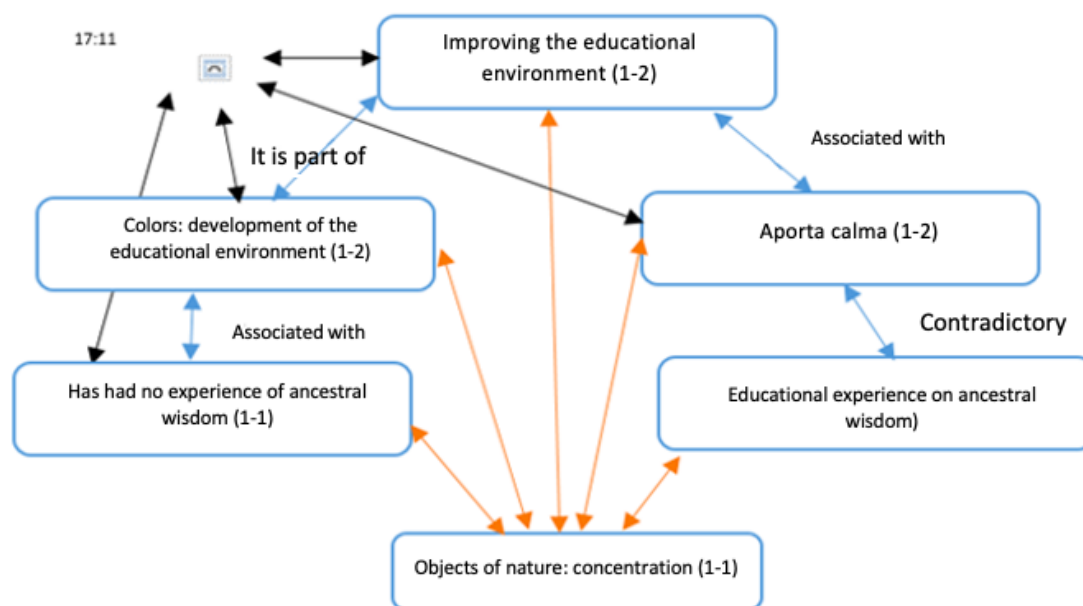
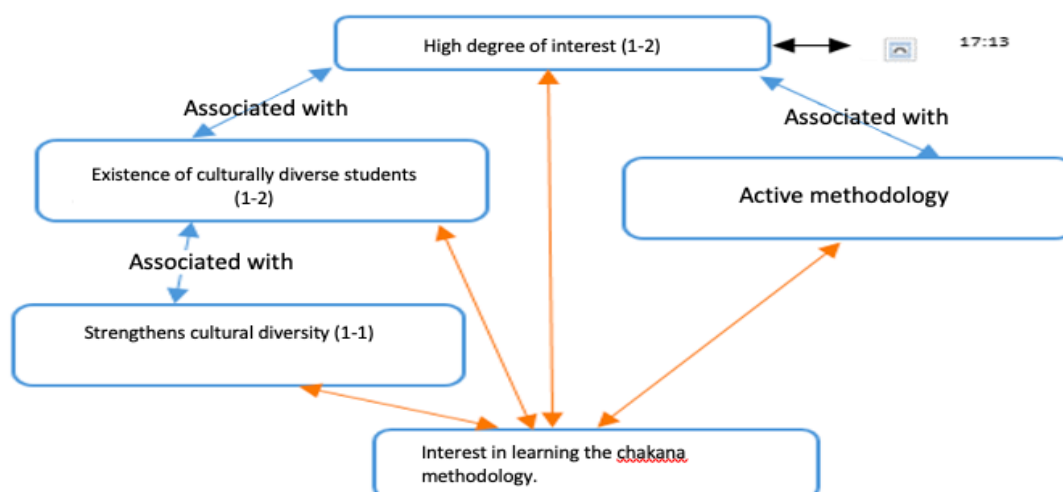


Figure 8. Educational experience on ancestral wisdom

In Figure 8, a general knowledge is seen in one of them, who points out that "the ancestral part in education influences a lot in the use of colors where the educational environment is developing, the placement of plants and sounds to reflect nature. It helps to improve the concentration and care of each student by placing a responsibility of protection, and improves at the environmental level the stress of the day to day influencing calm at the time of developing classes" (Interviewee 2, interview, September 28, 2021). The other, on the other hand, points out "I have never had any experience linked to ancestral wisdom" (Interviewee 1, interview, September 28, 2021).

Finally, regarding whether they would like to learn new teaching methodologies based on intercultural methodological tools such as the Chakana, the following is observed:



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Figure 9. Interest in learning the La Chakana Methodology

Figure 9 shows that there was a unanimous response in indicating that it generates a high degree of interest, it is a useful methodology, since "it would be interesting to learn new methodologies, since in our educational establishments we have students from diverse cultures and different customs that are an essential part of our identity" (Interviewee 1, interview, September 28, 2021).

#### 4.3 Analysis of expert interviews

This section presents the results obtained from the responses of two experts in intercultural education and the Chakana, who have been assigned a code (Expert 1 and Expert 2). This is followed by an explanation of.

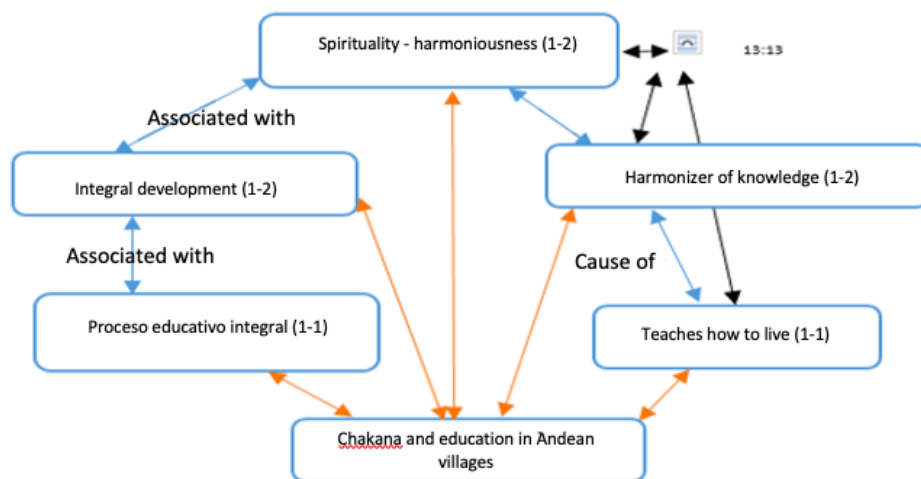
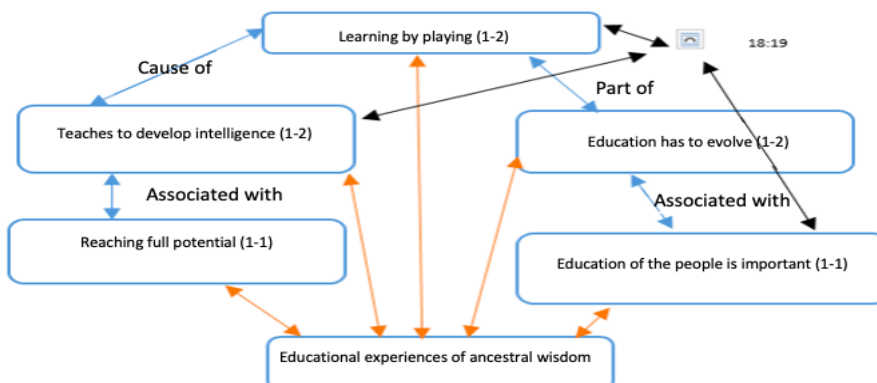


Figure 10. Chakana and education in Andean villages

When asked what the Chakana is or what it represents for the education of Andean peoples, it can be seen that in the experts' answers there are two central categories: integral development and harmony. In this sense, one of the interviewees considers that "it is an integral educational process, that is why it should not even be called education but integral development. The issue is that education has been disintegrated" (Expert 1, interview, September 24, 2021), so for the expert the Chakana "teaches us to live a spiritual-harmonious part" (Expert 2, interview, September 20, 2021) in areas such as education by teaching the student to live.



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Figure 11. Educational experiences of ancestral wisdom

With respect to knowing what educational experiences from the ancestral wisdom have been lived in the country, what results have been achieved. At this point they point out that the educational experiences have shown the importance of the education of the peoples, "the problem is that in the country there is no public policy that says that the education of the peoples is worth, or that the language has to be worth to enter a place to work. They teach rather to eliminate because what matters is to know Spanish" (Expert 2, interview, September 20, 2021), therefore, for one of the interviewees, education has to evolve and if it does not "we are lost" (Expert 1, interview, September 24, 2021); it is essential to teach to develop intelligence and to embrace the full potential of the child.

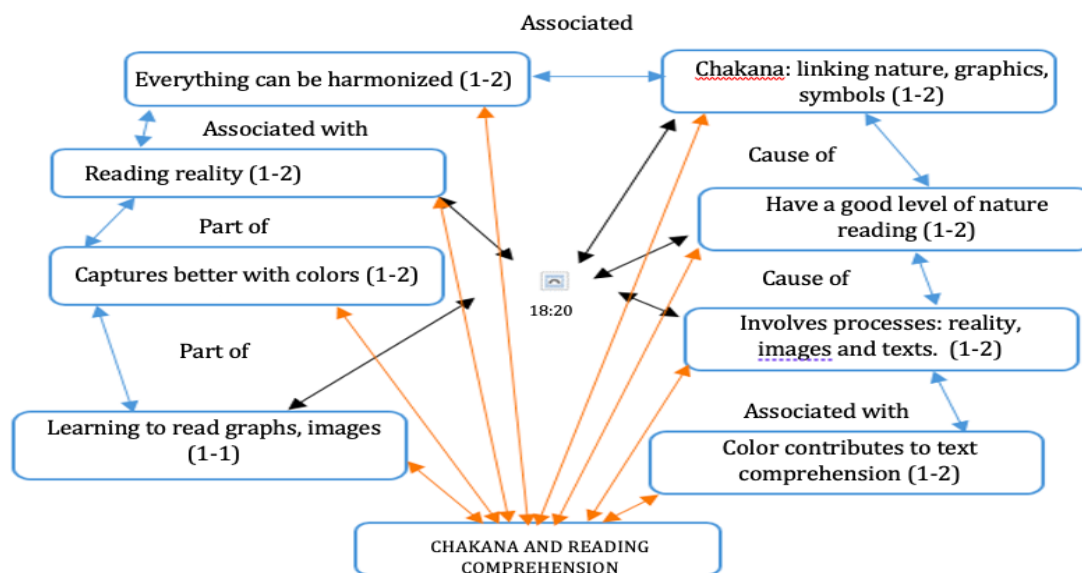


Figure 12. La Chakana and reading comprehension

Finally, regarding the way in which Chakana can contribute to the field of text comprehension, the answers indicated that it is necessary to teach from Chakana based on the reading of reality, which involves a process. "It is the ability of a person to meaningfully interpret a text, but for us it is not only that, it is to make use of circular Chakana, that is, to integrate nature, graphics and symbols" (Expert 1, interview, September 24, 2021). To do this, "we must have a good level of reading nature and, therefore, reading reality: reading in reality" (Expert 2, interview, September 20, 2021).

In this sense, Expert 2, from the Kayambi people, states that the use of colors helps students to better grasp reading comprehension, where:

In each color you can put texts depending on the topic. You can also plan in each color in education, and there are several ways to work on the colors. For children you can put the animals, for example, in red is the guinea pig, which teaches us the maximum fertility, the maximum love for the loved one. In the blue color we have the snake, and you can tell stories with the animals. In the green color we have the hummingbird and there we also find the pig. The yellow color gives us security, and it is represented by the little dog, the security is in the mountains, the strength of a community that is the little dog and/or the little bear. In the



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center we have the spiritual, visionary part, the condor, the little turtle (Interview, September 20, 2021).

## 5. Discussion of the results

The data obtained made it possible to demonstrate, on the one hand, the level of reading comprehension among fifth grade students and, on the other hand, to determine to what extent the teachers interviewed know the Chakana as an intercultural methodological instrument, but also to identify the essential factors of this proposal of the ancestral conception.

In this way, it can be seen that in the group of students' reading comprehension, which is clearer on the literal than on the critical level, but also in the lack of knowledge of how to construct a sentence, it is determined that the methodology used has not given the expected results. On this point, the study conducted by Moreta and Mayorga (2020) led to the conclusion that, through the traditional methodology used in an educational center in Colta, Ecuador, "48% of the students evaluated do not reach the expected average (normality) for their level of education, and only 13% of them show a high or very high reading competence" (p. 60; results obtained from a Reading Comprehension Evaluation test, of a sample of 101 students.

Now, within the teaching-learning process, it can be seen, in the present study, that teachers have not introduced new methodological proposals as proposed in the research, and that this is demonstrated by the results, widely ignoring the benefits that the Chakana offers to education in different fields of knowledge. Here it is important to point out the study developed by Escandón and Rivera (2020), for whom the current educational system does not take into account ancestral didactic resources for the development of skills in areas such as Geometry. This was evidenced by their research developed using the technique of interviewing teachers and surveying students in an educational center, where it was concluded that the group does not understand the topics covered in class, nor does it reach the required learning under the traditional methodology, but as a Didactic Unit Plan (PUD) was applied with a focus on the use of the Chakana, their learning process improved significantly.

Thus, it can be seen that this methodological instrument is an interesting proposal in the field of reading comprehension (a field in which there is not much literature in Ecuador), since, as experts point out, it not only provides spaces to improve this process, but also articulates the experience of reading comprehension with reality, integrating elements of nature on the precept of learning to read reality. But, in the same way, it contributes to forge an integral development from its principles and colors, since it deals with aspects such as emotional aspects by generating harmonization environments.

## 5. Conclusions

Within this section, the conclusions are developed. This is based on the results obtained throughout the research process, which are detailed below in accordance with the specific objectives set out in the study.

On identifying the essential factors of the Chakana as an intercultural methodological instrument, it is concluded that within this methodology two central categories are taken into account: integral development and learning in harmony, where the colors of the Chakana (good feeling: red, good thinking: blue, good saying: green, good doing: yellow and white: harmony) allow the student to interact with reality, being the game an important



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part within the educational process understood from the Andean vision as a healing, healing entity.

It is also concluded that another essential factor is given by focusing the methodology according to a learning based on experiences in which both teacher and student interact actively under a shared education. This applied to the field of reading comprehension, involves teaching from the use of a reality-based reading, that is, helping the student to interpret the meaning of a text, but integrating in the process elements such as graphics, symbols and nature. With respect to determining the degree of reading comprehension in the students, it is concluded that among the aspects that need to be reinforced are mainly the ability to construct sentences, but especially the reinforcement of the use of literal reading, a point that none of the students achieved. In addition, it is necessary to improve the level of vocabulary and the critical level, both aspects that were evidenced to be obtained at a medium-high level; being the best developed the exploratory reading type with more than 80% reached in the group studied.

Finally, regarding the objective that refers to designing an intercultural educational proposal from the Chakana to strengthen reading comprehension, it is concluded that the proposal should be focused on the elaboration of a didactic guide based on the colors of the Chakana that reinforces aspects such as improving vocabulary, literal reading and the critical level and knowing how to construct sentences, but based on the use of a text as well as learning to read graphics, symbols based on the game and experiences within the context that nature can contribute to reading comprehension. Likewise, it is concluded that the proposal should be directed to encourage the active participation of the student, from the Chakana as an ancestral instrument of harmonization of knowledge, giving an initial induction on this methodology, use of its colors in education, dimensions, principles, understanding that, in the interview with the teachers, they evidenced to have very general knowledge on the subject.

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