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ORIGINAL ARTICLE

Educational activities for learning to read and write through pictograms in children aged 4-5 years

Actividades didácticas para el aprendizaje de la lectoescritura a través de pictogramas en niños de 4-5 años

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Abstract Developing reading and writing in children aged 4 to 5 years requires teaching strategies that promote text comprehension through visual resources and structured diagrams. In this context, the present study aimed to design a system of teaching activities based on pictograms to improve the learning of reading and writing in children in sublevel II of the Isidoro Barriga Educational Unit (Puerto López, Ecuador). With a descriptive and transversal approach, the research included an intentional sample of 29 children aged 4 to 5 years and 10 teachers selected by participation and permanence criteria. Surveys were applied to teachers, and classroom observations were carried out to diagnose the level of recognition of pictograms and difficulties in communicating ideas. The results showed limitations in oral and written expression and the identification and use of pictograms. Teachers indicated that these resources facilitate reading comprehension and the development of reading and writing skills. In response, a system of activities structured into objectives, procedures, and evaluation indicators was designed. Its validation by specialists confirmed its relevance and viability, highlighting the importance of innovative methodologies. It is concluded that pictograms strengthen the construction of knowledge and improve the association between images and words, recommending their integration into initial literacy.

Keywords literacy, pictograms, early childhood education, zone of proximal development, teaching strategies.

Resumen El desarrollo de la lectoescritura en niños de 4 a 5 años requiere estrategias didácticas que favorezcan la comprensión del texto a través de recursos visuales y esquemas estructurados. En este contexto, el presente estudio tuvo como objetivo diseñar un sistema de actividades didácticas basado en pictogramas para mejorar el aprendizaje de la lectoescritura en niños del subnivel II de la Unidad Educativa Isidoro Barriga (Puerto López, Ecuador). La investigación, de enfoque descriptivo y transversal, incluyó una muestra intencional de 29 niños de 4 a 5 años y 10 docentes, seleccionados por criterios de participación y permanencia. Se aplicaron encuestas a docentes y observaciones en aula para diagnosticar el nivel de reconocimiento de pictogramas y dificultades en la comunicación de ideas. Los resultados mostraron limitaciones en la expresión oral y escrita, así como en la identificación y uso de pictogramas. Los docentes señalaron que estos recursos facilitan la comprensión lectora y el desarrollo de habilidades de lectoescritura. En respuesta, se diseñó un sistema de actividades estructurado en objetivos, procedimientos e indicadores de evaluación. Su validación por especialistas confirmó su pertinencia y viabilidad, destacando la importancia de metodologías innovadoras. Se concluye que los pictogramas fortalecen la construcción del conocimiento y mejoran la asociación entre imágenes y palabras, recomendando su integración en la alfabetización inicial.

Palabras clave lectoescritura, pictogramas, educación inicial, zona de desarrollo próximo, estrategias didácticas.

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PUBLIS EDITORIAL

Introduction

Literacy development is a fundamental process in early childhood education, as it allows children to acquire essential skills for their cognitive, social, and academic development. Various studies have shown that learning to read and write at an early age significantly contributes to personal and professional success throughout life (Daza et al., 2020). Acquiring these competencies during early childhood strengthens cognitive and socio-emotional skills, making it easier to understand the environment and assimilate knowledge more effectively.

In this context, pictograms have emerged as an effective educational tool to enhance literacy learning. Pictograms are visual representations that help children identify concepts, develop imagination, and improve reading comprehension by associating images with words (Haro et al., 2024). Furthermore, their use has been key in inclusive education, as they facilitate communication in children with language disorders, such as autism and Asperger syndrome (Lema et al., 2019).

Implementing pictograms in teaching literacy is grounded in learning theories emphasizing the importance of multisensory development and visual tools to reinforce the educational process. Previous studies have demonstrated that pictograms favor reading comprehension by allowing children to interpret information sequentially, facilitating the structuring of coherent sentences and texts (Llori et al., 2023). Additionally, their universal nature allows them to be used in various educational contexts without cultural or linguistic limitations (Bermeo et al., 2023).

This study aimed to design a system of educational activities based on pictograms to improve literacy learning in children from sublevel II at the Isidoro Barriga Educational Unit (Puerto López, Ecuador). The research is based on the need to improve reading and writing comprehension levels in the early years of schooling, providing teachers with effective strategies to strengthen these skills in young children.

In this regard, the competencies of emerging literacy were addressed, such as phonological awareness, symbolic play, active listening, and shared reading, all of which are essential for the cognitive preparation of children in formal reading learning (Conejo & Carmiol, 2017). Furthermore, the characteristics of pictograms, their applicability in the classroom, and their relationship with text comprehension are analyzed, emphasizing their simplicity, universality, and ability to improve the organization and sequencing of learning (Medina & Veliz, 2013).

Specific strategies for using pictograms in literacy teaching are presented, such as pictographic stories, formulating sentences with pictograms, and organizing daily routines through visual representations (Pérez, 2017). Through this study, we aim to contribute to developing innovative methodologies that improve educational quality and the overall development of children in preschool education.

Methodology

The study was conducted at the Isidoro Barriga Educational Unit in Puerto López, Ecuador. The research was framed within a descriptive and cross-sectional design to analyze the impact of a system of activities based on pictograms on literacy development in Early Childhood Education children.

The total population consisted of 43 children and 16 Early Childhood Education teachers. A non-probabilistic intentional sampling method was used, selecting 29 children aged 4 to 5 and 10 teachers from sublevel II on the morning shift. The selection of participants was based on inclusion criteria, such as continuous attendance at the institution during the study period and teachers' willingness to participate in the research process.

For data collection, a structured survey was designed and applied to the teachers, aiming to assess their perception of the impact of the pictogram-based activity system on the literacy teaching-learning process. The survey included closed-ended questions and Likert-type scales to evaluate the method's effectiveness, the children's participation, and the changes observed in their word recognition and production skills.

A structured observation was also implemented, where children's interactions with the pictograms in various educational activities were recorded. Checklists were used to assess indicators such as image identification, association with written words, and the production of basic written language structures.

The obtained data were processed using SPSS version 23.0 (or specific software). A descriptive analysis based on frequencies and percentages was applied, allowing the identification of response patterns and trends in teachers' perceptions and children's performance. Moreover, potential associations between pictogram activities and improvements in early literacy skills were explored.

The study adhered to ethical principles in research with human subjects, ensuring the voluntary participation and informed consent of teachers and legal guardians of the children. Data confidentiality was guaranteed, following the

current regulations of the educational institution and other national provisions.

Results and discussion

Various teaching methods and strategies are designed for the early and primary education levels, which contribute to improving children's learning. In this context, a system of educational activities based on pictograms enhances children's skills and knowledge development. This approach, used since ancient times and perfected over time, allows new concepts to be transmitted clearly and quickly at the preschool level, providing opportunities to improve educational quality.

For this reason, a system of educational activities using pictograms is proposed to strengthen literacy learning. This proposal is based on a pedagogical approach that promotes teaching and learning and seeks to significantly impact child development.

This system of educational activities is justified because reading and writing form the foundation of educational development at all levels. Consequently, ten educational activities are presented that can be applied both in the classroom and at home, using pictograms and pictographic materials created by parents or teachers. These strategies are designed to stimulate children's abilities and progressively improve their learning in a didactic manner.

Characterization of the proposal

The system of didactic activities is conceived as a set of interconnected elements that form a unit to achieve specific objectives. Its design responds to the need to solve problems previously identified in the teaching-learning process, establishing the nature of the activities, the context of the application, and the target audience (Campos, 2011).

From this perspective, the system of activities is configured as a set of tasks that can be physical, labor, or educational, designed to support teaching processes and facilitate the acquisition of knowledge and skills. These tasks allow students to meet the objectives of study programs, contributing to their academic development (Guapisaca & Núñez, 2019). These systems comprise actions and operations that allow tasks to be executed with quality standards, as their flexibility and adaptability make them applicable in various educational contexts (López, 2016).

The didactic activity system is understood as an action system that facilitates the individual's integration into the learning process, enabling them to acquire knowledge and develop skills meaningfully. These activities are fundamental tools for evaluating student learning levels and the effectiveness of the content taught (Orozco, 2016). According to Díaz and Hernández (2004), there are two types of learning strategies that, although often generalized, have in common the promotion of autonomous and flexible learning.

Play-based activity systems are primarily associated with games, as they are fundamental to children's and adults' social and cognitive development. Play-based activities range from physical and mental exercises to the development of skills and balance, fostering concentration and mental agility and contributing to bodily expression and meaningful learning (Rojas, 2018).

The design of a play-based activity system should focus on stimulating interest in learning and strengthening reading and writing skills. Some activities that can be included in these systems are board games, traditional games, artistic and craft creation, watercolor painting, clay play, and hide-and-seek games.

Implementing a system of didactic activities has multiple positive effects on students' learning. The main benefits include the ease of integrating activities adapted to the needs of the students, fostering active participation, allowing adjustments and modifications to the educational planning, contributing to the connection between prior knowledge and new content, promoting autonomous learning and self-regulation of knowledge, improving the pedagogical experience through constant feedback, and encouraging interaction and collaborative work among students.

In pedagogical mediation, theoretical grounding is key to supporting the educational proposal. The teachers' characterization reveals the need to improve the use of pictograms as a learning tool for literacy, as their integration in educational institutions remains limited. With the advancement of technologies and the adoption of new methodologies, education must constantly innovate and employ strategies that positively impact academic formation.

Current research highlights the importance of developing innovative educational proposals incorporating various didactic activities. In early childhood education, play-based and pedagogical techniques are essential, as children better assimilate knowledge through interactive experiences. Therefore, teachers must be prepared to continuously integrate new educational strategies that promote skills development and improve learning quality. The proposal's objective was to strengthen literacy learning through a system of didactic activities using pictograms for children aged 4-5 years at the Isidoro Barriga Educational Unit.

The proposed system of didactic activities with pictograms

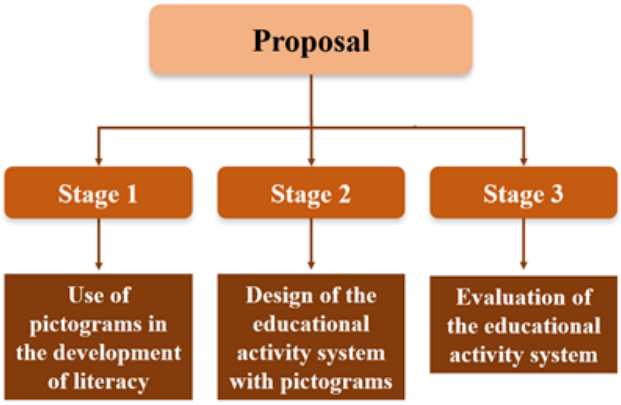


Figure 1. Components of the proposal structure.

is established as a teaching method that starts with activities that contribute to strengthening children's literacy level, providing more opportunities for learning and improving writing and language skills, thus facilitating an acceptable reading process. Given that it represents a general challenge, other institutions can often adopt it, as these are multifunctional activities that are important in education and influence society.

Stages of the pedagogical proposal

Stage I. Characterization of the current situation in the institution

Considering the characterization, the design of the instruments was developed, considering the interrelation of the topic with the scientific problem of the research. This process allowed us to understand the current state of reading and writing development in 4-5-year-old children at the institution.

From the teacher's perspective, pictograms are an exceptional teaching resource that facilitates student comprehension. Silhouettes with figures in the form of cards are ideal for improving reading, as activities with pictograms strengthen children's learning.

On the other hand, a checklist was applied to have a more specific approach to the current situation, evaluating 29 children from the Isidoro Barriga educational unit. The observation revealed that students need more stimulation to learn and reach optimal educational levels. Before implementing the proposal, difficulties in learning reading and writing were evident. Therefore, using a system of didactic activities supports children's learning regarding reading and writing development and provides teachers with a valuable tool for the teaching and learning process in this area.

Stage II. Design and formation of didactic activities

Considering the results of the characterization stage, the most relevant topics are presented. These will be developed and designed in a system of didactic activities with pictograms. These activities will be practiced at the institution to benefit the development of literacy and the active growth of activities, facilitate the organization of educational work, and promote interaction among the children.

Once the design and structure for each didactic activity are presented, the evaluation criteria and effectiveness of these pedagogical techniques are considered to understand the impact on teachers and students at the institution.

Design of the activities

The following are 10 educational activities to be carried out using pictograms, which help develop and strengthen the literacy skills of 4-5-year-old children at the Isidoro Barriga Educational Unit.

Stage III. System assessment

Based on the evaluation results of 15 professionals specialized in the subject (Table 1) belonging to various educational institutions in the municipalities of Jipijapa and Puerto López, specific criteria were established for their selection. These included more than five years of teaching experience, specialization in Early Childhood Education, commitment to research, and availability of time to participate in the study.

Based on the results of the evaluation carried out by 15 specialists, it was determined that 100% of the evaluators considered the proposal presented highly precise in structuring the proposed system of didactic activities. In relation to the theoretical foundation that supported the system of didactic activities based on the use of pictograms, 100% of the specialists valued this aspect as "very adequate."

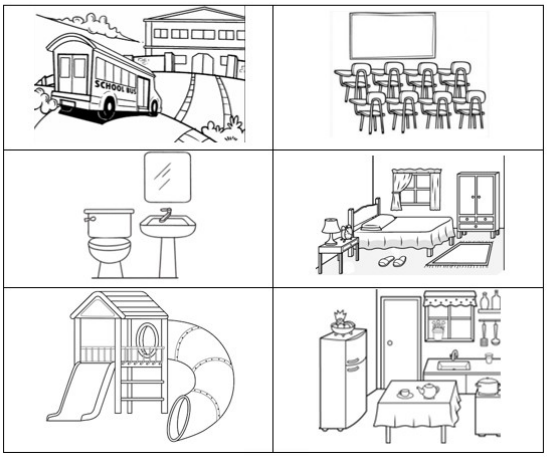
The evaluation's analysis of the relevance of the general objective of the system of didactic activities revealed that 100% of the experts considered it precise and highly adequate for implementation. Regarding the accuracy of the proposal's characterization, the results indicated that 87% of the specialists rated it as "very adequate". The remaining 13% suggested the need to relate the evaluation criterion with the activity's objective.

Regarding the clarity of the requirements for implementing the system of teaching activities, 73% of the specialists (11 out of 15) rated them as "very adequate". In comparison,

Activity #1: The corners of my little school

Time	40 minutes
Materials	Worksheets, pictograms, and pencil
Objective	Name the different areas of the school and draw their favorite area.
Procedure	1. Discovering our school together Form a group with the children and tour the school, exploring and naming each of its areas. 2. Remembering what we saw After the tour, show the children cards with images and names of the areas visited. 3. Playing to identify Present each card individually for the children to observe, identify, and name aloud. 4. Drawing our favorite part Give each child a sheet to draw their favorite part of the school.

1. Enclose and color the school facilities.



2. Complete the text.

My little school

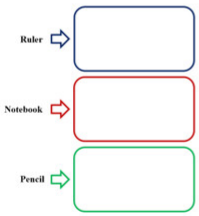
In my  there is a  for reading and writing.

My  has many  and very comfortable  .

Activity evaluation	**Always**	**Rarely**	**Never**
Correctly identify the school facilities using images			
Recognize the school facilities and draw your favorite facility			
Correctly identify the pictogram			

Activity # 2. School supplies

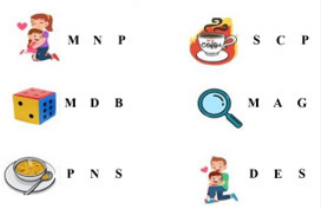
Time	30 minutes
Materials	Labels, school supply pictograms, tape, and blackboard
Objective	Match the object displayed in the images with its respective label
Procedure	1. We discover the labels and images Present each label and image to the children so they can familiarize themselves with the activity. 2. We organize on the board Place the labels of the school supplies on one side of the board and the corresponding images on the other. 3. Match the image and word Match each image with its label, showing that it should be detached and placed below the correct image. 4. We play and draw Identify the image on the board, say out loud which school supply was chosen, and then draw it on their paper.

1. Draw the school supplies.	2. Complete the text.
	

Activity evaluation	**Always**	**Rarely**	**Never**
Recognize and match the images with their writings			
Draw the school supplies			
Read the pictogram correctly			

Activity # 3. Word game

Time	40 minutes
Materials	Pictogram, sheets, glue, scissors, pencil
Objective	Recognize the initial phonemes of words by relating them to the images
Procedure	We explore the phonemes Give the children cards with words that contain the phonemes studied in class. 2. We listen and relate Show flashcards with images to identify the initial phoneme. 3. We play to identify sounds Auditory identification of the initial phonemes of the images shown on the flashcards. 4. We learn in a fun way Associate the sounds with the words.

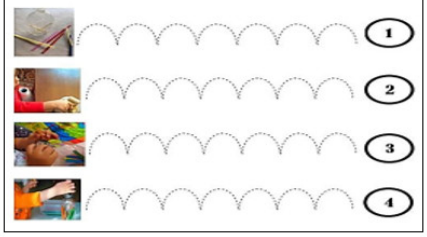
1. Paint the initial phonemes of words.	2. Complete the text.
	

Activity assessment	**Always**	**Rarely**	**Never**
Recognizes the initial phonemes of words			
Correctly discriminates the phoneme with the image			
Correctly reads the pictogram			

Activity # 4. My coordination

Time	30 minutes
Materials	Step-by-step images, plastic bottles, straws, colored beads, or sticks
Objective	Coordinate the eye-hand control of work instruments such as pencils, scissors, and paintbrush
Procedure	1. We prepare our materials Prepare the materials requested by the teacher: a plastic bottle and straws, beads, or colored sticks. 2. We observe and understand Place the materials on their desks, and the teacher shows step-by-step images of how to carry out the activity. 3. We follow the instructions Take the bottle and the colored sticks. Choose a stick and insert it into the bottle using the "digital pinch" (finger pinching movement).

1. Follow the dotted line to the corresponding number.

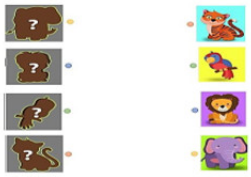


Activity assessment	**Always**	**Rarely**	**Never**
Develops fine motor skills, with hand-eye coordination			
Reads and identifies the steps through the images			
Performs well during the activity			

Activity # 5. The animals

Time	25 minutes
Materials	Sheet with pictograms, scissors, glue
Objective	Read the pictogram to recognize the silhouettes and relate them to the images
Procedure	1. We discover the pictograms The teacher shows the children a sheet with pictograms of animals and their silhouettes and explains the activity they will do. 2. We prepare our materials Each child receives their worksheet, where they will find images of animals at the bottom. 3. We cut and match The children must carefully cut out the animals and glue them next to the silhouette that best matches each one. 4. We learn through play Through this activity, children develop their motor coordination, observation, and visual association in a fun and meaningful way.

1. Connect each animal with its shadow using lines.



2. Complete the text.

The  is turning 10 years old.

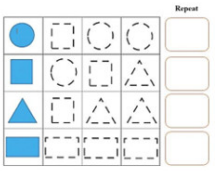
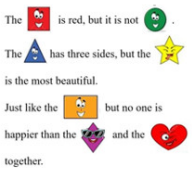
The  came with his friend the  ,

and the  also came. They all celebrated happily.

Activity assessment	**Always**	**Rarely**	**Never**
Identify the displayed objects			
Relate the image to the correct silhouette and read the pictogram			
Pay attention during the explanation of the activity			

Activity # 6. Hopscotch of shapes

Time	30 minutes
Materials	Pictograms of geometric shapes, tape
Objective	Draw the geometric shapes through sensory exploration and muscle control development
Procedure	1. We discover the pictograms The teacher shows the children a sheet with pictograms of animals and their silhouettes and explains the activity they will do. 2. We prepare our hopscotch The teacher organizes the activity by sticking images of different geometric shapes on the floor, creating a colorful and fun hopscotch. 3. We explain the game rules The children are told they must cross the hopscotch following the instructions given by the teacher. 4. We move and explore The teacher invites one child to start, instructing them to place one hand on the circle. Then, they must place one foot on the square and the other on the triangle. After that, they will jump with both feet on the rectangle and continue until they finish the path. Once completed, the next child will take their turn. 5. We reflect and reinforce learning After the game, the children will do written and reading activities related to geometric shapes, reinforcing what they have learned in a fun and dynamic way.

1. Copy and repeat the geometric shapes in the box.	2. Complete the tex.
	

Activity assessment	**Always**	**Rarely**	**Never**
Name the geometric shapes correctly			
Read the pictogram			
Draw the geometric shapes			

Activity # 7. Guessing away

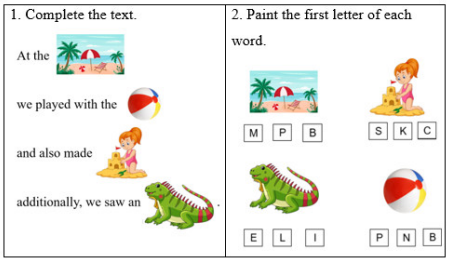
Time	30 minutes
Materials	Sheet with pictograms of riddles, pencils, colored pencils
Objective	Develop their expression skills and imaginative capacity
Procedure	1. We form teams and prepare the material The teacher organizes the children into two groups and gives each team a sheet with a riddle written with pictograms. 2. We discover the answers We explained that we would play riddles using the images on the sheet. The teacher will give clues to help the children figure out the answer. 3. We make the game a fun challenge We turn the activity into a small contest to motivate the children: the first to guess wins. 4. We finish with creativity and color At the end of the game, each child receives a sheet with a rainbow to color, encouraging creativity and playfully reinforcing learning.

1. Complete the riddle and answer.	2. Color the image of the rainbow.
	

Activity assessment	**Always**	**Rarely**	**Never**
Can correctly relate the clues			
Shows imaginative ability to give the correct answer to the riddle			
Correctly colors the image			

Activity # 8. The letters

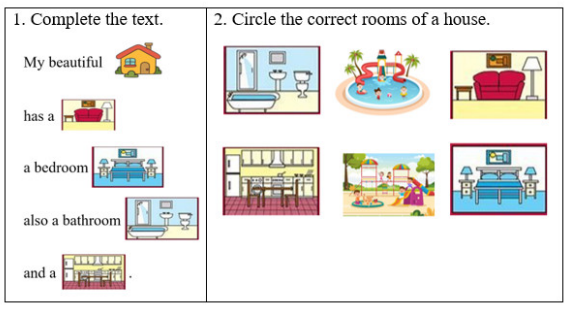
Time	30 minutos
Materials	Hoja bond, pictogramas, lápiz de color
Objective	Reconocer fonemas con los que comienza una palabra por medio del uso de pictogramas dentro de la actividad
Procedure	1. Nos preparamos para la actividad La maestra reúne a los niños en un semicírculo para que todos puedan observar y participar activamente en la actividad. 2. Exploramos los pictogramas Se presentan los pictogramas a los niños y se explica en qué consistirá la actividad, asegurando que todos comprendan el objetivo. 3. Escuchamos y repetimos La maestra pronuncia el nombre de cada imagen, destacando el sonido de la palabra o vocal inicial. Repite varias veces para que los niños puedan identificarlo correctamente. 4. Coloreamos y reforzamos el aprendizaje Finalmente, cada niño debe seleccionar y colorear la palabra o vocal correcta, consolidando su aprendizaje de manera visual y divertida.



Activity assessment	**Always**	**Rarely**	**Never**
Identifies the vowel in a word easily			
Relates the image to the name			
Shows interest in the activity in class during the reading of the pictogram			

Activity # 9. Let us get to know the rooms of the house

Time	30 minutes
Materials	Sheet with pictograms of riddles, pencils, colored pencils
Objective	Improve visual discrimination skills as a process to begin reading
Procedure	1. We explore the pictograms together In the classroom, the teacher guides the children in the activity, showing pictograms of different rooms in a house. She reads aloud the written parts and allows the children to identify and mention the name of the image that completes each sentence. 2. Reinforce learning with an activity Then, each child receives a sheet with printed pictograms, on which they must observe and correctly circle the rooms that are part of a house based on what they have heard and learned. 3. We play and learn in a fun way Through this activity, children develop their vocabulary, reading comprehension, and association of images with words, making learning more dynamic and meaningful.



Activity assessment	**Always**	**Rarely**	**Never**
Recognizes labels and signs in their environment			
Learns to read sentences with pictograms			
Correctly associates the image			

Activity # 10. The feelings

Time	30 minutes
Materials	Sheet with pictograms, emotions, and pencil
Objective	Associate images using graphic language as a means of written expression.
Procedure	1. Introducing the activity 🗣️📖 Explain to the children the purpose of the activity and help them recognize and express different emotions. 2. Discovering emotions 🏞️😀😳 Present pictograms with faces representing different moods, naming and explaining each emotion. 3. Expressing our emotions through drawing 🎨✍️ Draw a face that reflects the emotion corresponding to the given image. 4. Reinforcement and support 🤗📢 Repeat the names of the emotions and assist the children in understanding how to represent each one.

1. Complete the text.	2. Draw a face showing the girl's
The  feels  but before she was  and got  for not playing.	    emotion.

Activity assessment	**Always**	**Rarely**	**Never**
Successfully draws what is described in the activity			
Understands how to associate the images			
Actively participates in the playful activity			

the remaining 27% (4 specialists) considered them simply "adequate". The comprehensive analysis of the specialists' assessments showed that 100% of the evaluators considered the general conception of the system of teaching activities adequate.

Stage 1 of the system, corresponding to the characterization of the current situation in the institution, was rated as "very adequate" by 87% of the specialists, while the remaining 13% considered it "adequate". On the other hand, stage 2 of the system, related to the design of teaching activities with pictograms for the development of reading and writing, obtained a rating of 100% as "very adequate".

The specialists agreed that the precision of the design of the educational activities with pictograms was optimal, obtaining a 100% rating as "adequate". Regarding the viability and relevance of the proposal for developing reading and writing in children aged 4 to 5, 87% of the specialists rated it as "very adequate". In contrast, the remaining 13% considered it simply "adequate".

The 15 specialists who evaluated the educational activities system concluded that it facilitates the learning of reading and writing, highlighting its importance from Early Childhood Education as a basis for the acquisition of later knowledge. They stressed that using concrete and technological materials in its implementation represents an innovation, providing visual support that improves reading, writing, and communication.

The need to offer adequate educational resources to respond to children's natural interest in learning was emphasized. This system prioritizes the writing process over the final result and promotes motivation and self-esteem. They also pointed out that teaching reading and writing through this system should include various resources and methods, adapting to children's individual abilities to achieve meaningful learning. Play was highlighted as a key tool for cognitive stimulation and cooperative work.

Among the most valued aspects was the importance of teacher-child interaction, where the teacher must know each student's level of development and provide additional activities according to their needs. Finally, it was highlighted that teaching reading and writing does not require complex materials but rather the integration of learning into everyday life, taking advantage of every opportunity to stimulate oral and written expression.

Table 1. Accuracy of the activity system

Alternative	Frequency	Porcentage
Accuracy of the activity system		
Very suitable	15	100
Quite adequate	0	0
Appropriate	0	0
Inappropriate	0	0
Not suitable	0	0
System of educational activities through the use of pictograms		
Very suitable	15	100
Quite adequate	0	0
Appropriate	0	0
Inappropriate	0	0
Not suitable	0	0
General objective of the system of teaching activities		
Very suitable	15	100
Quite adequate	0	0
Appropriate	0	0
Inappropriate	0	0
Not suitable	0	0
Characterization of the system of didactic activities		
Very suitable	13	87
Quite adequate	0	0
Appropriate	2	13
Inappropriate	0	0
Not suitable	0	0
Clarity of requirements in the system of teaching activities		
Very suitable	11	73
Quite adequate	0	0
Appropriate	0	0
Inappropriate	4	27
Not suitable	0	0
Conception of the system of didactic activities		
Very suitable	15	100
Quite adequate	0	0
Appropriate	0	0
Inappropriate	0	0
Not suitable	0	0
Clarity of stage 1 of the proposal		
Very suitable	13	87
Quite adequate	0	0
Appropriate	2	13
Inappropriate	0	0
Not suitable	0	0
Design and creation of educational activities		
Very suitable	15	100
Quite adequate	0	0
Appropriate	0	0
Inappropriate	0	0
Not suitable	0	0
Precision in the design of teaching activities		
Very suitable	15	100
Quite adequate	0	0
Appropriate	0	0
Inappropriate	0	0
Not suitable	0	0
Feasibility and relevance of the proposal		
Very suitable	13	87
Quite adequate	0	0
Appropriate	2	1%
Inappropriate	0	0
Not suitable	0	0

Conclusions

Learning to read and write in children aged 4 to 5 is based on the zone of proximal development and the use of diagrams to facilitate understanding of the text. The diagnosis revealed difficulties in communicating ideas and recognizing pictograms, so teachers believe these improve reading and writing understanding and development. A system of teaching activities with pictograms was designed, defining objectives, procedures, and evaluation indicators. Validation by specialists confirmed its relevance and viability, highlighting the importance of innovative resources in teaching.

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Conflicts of interest

The authors declare that they have no conflicts of interest.

Author contributions

Katty K. Oviedo: Conceptualization, data curation, research, methodology, visualization, writing the original draft, writing, review and editing.

Data availability statement

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Statement on the use of AI

The authors acknowledge the use of generative AI and AI-assisted technologies to improve the readability and clarity of the article.

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