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Methodology for Analyzing the Environmental Perception of Children in a Peri-Urban Community

Metodologia para analisar a percepção ambiental de crianças em uma comunidade periurbana

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ABSTRACT

This study analyzes the environmental and social perceptions that preschool children have in the peri-urban area of an educational community in Calarcá Quindío, Colombia, referring to three central categories, the natural, social and artificial in the spatial, temporal and curricular contexts, based on the analysis of drawing as a didactic and methodological alternative in the processes of school Environmental Education. The theoretical framework of the research project is located in environmental education at the preschool level, considering its importance to generate processes of knowledge, understanding and appropriation of the context and to give reading from a comprehensive vision of the environment. At the methodological level, a qualitative approach of a descriptive-exploratory type is defined. Drawing and semi-structured interviews are used as instruments, in order to obtain in greater depth the information on the perceptions that children have about the socio-environmental. Finally, the article presents the analysis of the results through a categorical matrix that is based on the grounded theory and allows to know in a systematic and relational way the perceptions and meanings of the subjects participating in the research. In turn, the findings reveal trends with regard to how infants perceive and value their context, from their experiences and everyday life, expressed through drawing.

Keywords: Environmental perception, preschool, interpretation of drawings, education, environment.

RESUMO

No presente estudo, analisamos as percepções ambientais e sociais que as crianças pré-escolares têm na área periurbana de uma comunidade educacional em Calarcá Quindío, Colômbia, referindo-se a três categorias centrais: natural, social e artificial nos contextos espacial e temporal e curricular, com base na análise do desenho como alternativa didática e metodológica nos processos de Educação Ambiental Escolar.

O referencial teórico do projeto de pesquisa está localizado na educação ambiental no nível pré-escolar, considerando sua importância na geração de processos de conhecimento, compreensão e apropriação do contexto e leitura de uma visão integral do meio ambiente.

No nível metodológico, é definida uma abordagem qualitativa, de natureza descritiva-exploratória, sendo utilizadas como instrumento um instrumento de desenho e entrevistas semiestruturadas, a fim de obter informações mais aprofundadas sobre as percepções que meninos e meninas têm sobre o ambiente. Por fim, o artigo apresenta a análise dos resultados por meio de uma matriz categórica, fundamentada na teoria fundamentada nos fundamentos e permite conhecer de forma sistemática e relacional as percepções e significados dos sujeitos participantes da pesquisa, por sua vez, os achados revelam tendências sobre como os bebês percebem e valorizam seu contexto, a partir de suas experiências e da vida cotidiana, expressos através do desenho.

Palavras-chave: Percepção ambiental, pré-escola, interpretação de desenhos, educação, meio ambiente.

Introduction

Despite the importance of dealing with Environmental Education in the formal Educational System at the national and regional level of Colombia, on many occasions, as mentioned by Suárez *"the didactic and methodological processes to address the aspects of the environmental, are simplistic, reductionist and far from the reality of the school context"*. (Suárez, Cardona, Ferrandis, 2019:3). Therefore, and following the guidelines of constructivism, the conceptions of the students must be known to act accordingly. Hence the importance of knowing the preconceptions of children in relation to their idea of the immediate environment. Starting from these conceptions the teaching-learning process related to Environmental Education can be improved.

On the other hand, the immediate environment constitutes the articulating axis between the school and Environmental Education, since it is the scenario where the experiences and meanings of the infants are linked. At the same time, it constitutes the contextualizing reference for their learning, since it is there where children are able to identify the socio-environmental realities present in the territory, where awareness and empowerment are based. From this perspective, it is essential to allude to the territory as a conceptual category, which has experienced disciplinary formulations that have combined different areas of knowledge.

In this regard, Sosa (2012: 16) refers to the search aimed at thinking of the territory as an integral, dialectical, complex, multidimensional and multidimensional construction, from social life and its multiple and plural interrelations, processes and dynamics, where the geographical and ecological, the economic, the social, the cultural and the political were understood as indivisible and interacting parts, the same as their levels, scopes and scales.

On the other hand, the territory is defined as "a space built by social groups over time, to measure and in the way of their traditions,

thoughts, dreams and needs, territories that mean much more than physical space populated by different forms of life that relate, cooperate and compete with each other; which allows us to conceive of the territory as a relational field. (Rodríguez, 2010:10).

To this extent, the territory is understood from the social relations that are based on historical roots, political configurations and identities, which are their own and different from each of the contexts. The new readings of the territory, therefore, constitute a determining axis for Environmental Education. From the pedagogical horizon, the importance of children from their early stages, building knowledge from their immediate environment is reaffirmed.

At present, the need to work in an articulated way the environmental and territorial problems presented in the environment with the educational field is materialized, in order to advance towards the sustainability of the different communities. It is an urgent task for the country, work that must be initiated from school, where students, teachers and the educational community in general, must become active subjects of these processes, generating knowledge production from their own habitat, recognizing potentialities and weaknesses, which lead to question what territory they dream of and of course, make it possible" (Cardona, 2015:6)

In the investigative process, the drawing elaborated by the infants is considered as a means of non-verbal communication that reflects the thought, creativity and vision of the children about their environment. Classic authors such as Stand, Piaget, Arnheim, Tonucci, and Olaizola, deal with the importance of the relationships between children and the environment. *The stages of growth are discerned in the drawings that the child draws and this can help the teacher guide the child in learning, concepts and artistic means"* (Stant, 1972). On the other hand, in their development Children are

to know and learning quickly how their environment works, and they need not only to socialize, imitate, touch, but also to make new things their own (Piaget, 1981).

It is through children's drawing that these needs begin to be captured, which in turn allows them to mature their thinking and perception of the world. *Beyond perception, another element comes into play in the elaboration of children's drawings, it is the prior knowledge in children, which according to intellectualist theory comes from a non-visual element, referring to abstract concepts* (Arnheim, 1981). In this regard, the author explains that, through perception, the child has visual influences that he interprets and assimilates and later translates it into the drawing. Teaching-learning activities should favor the original drawing of children. *During their early years, they draw what they know and not simply what they see. Therefore, the drawing is rich in information about the interior of the child, about his way of knowing the world* (Tonucci, 1997). In short, the drawing is an important window into the interior of the child. More current works such as that of Papandreou (2014), agree that the activity of drawing is a social activity, which takes place in different contexts, and that the drawings are determined by the presence of others as parents, siblings, teachers, friends and various stimuli of the wider sociocultural environment. In accordance with this perspective, this work highlights the importance of drawing and its meaning.

The Nature and Extent of the Research Problem

Previous knowledge is of the utmost importance to achieve meaningful learning, but it is difficult to know the environmental perceptions, meanings and knowledge related to the environment by students at an early age. Given the limitations of expression in these educational levels, drawing is an instrument that allows us to approach the

previous ideas of children at an early age. The research questions we propose to answer in this paper are the following: What are the environmental and social perceptions of the immediate environment that preschool children have? Do children find differences between their immediate environment and others outside them? Do they know how to distinguish between living beings in their immediate environment and those in other geographical areas? Its results can be of great use for social studies, natural sciences, studies related to other human groups or countries, or in the interaction of people with their environment.

Although there are similar works, no studies have been carried out on the environmental perception of preschool children in peri-urban areas, through the analysis of drawing in Colombia, this being a novel and useful tool for the field of environmental sciences.

This article is a summary of a research project funded by the University of Quindío (Suárez, Cardona and Ferrandis, 2018) that emerges as an important commitment to think about research in Environmental Education from the reading of the peri-urban context, where the protagonists are the children of an Educational Institution at the preschool level.

The research focused on initial levels of the educational system, the sample being selected intentionally looking for the characteristics of relevance and adequacy, that is, subjects who can provide more and better information were used so that the data collected allow to record the most varied and rich description of the phenomenon. The general objective was to know the environmental and social perceptions of the immediate environment of a group of preschool children in different spatial, temporal and curricular contexts, based on the analysis of the drawing, taking into account the spatial, temporal and curricular context, which in a transversal way appears for each of the objectives set.

in the investigative process.

From the National Policy of Environmental Education, the need to understand socio-environmental processes from two fundamental elements is raised: Space and time, which are indispensable for the contextual location of the given processes in the environmental field.

"Spatiality is the subject's awareness of his situation and his possible situations in the space that surrounds him, his environment and the objectives that are in it." (Wallon, 1984). In this same regard, the author mentions that space evolves from the knowledge of bodily space, through environmental space, to symbolic space. This process constitutes, in fact, a structuring in phases that goes from body movement to abstraction. The perception of space occurs through contact with the environment, since it allows the child to place himself in space and recognize it.

Temporal perception is the duration that exists between two successive spatial perceptions. That is why in its evolution it follows the same paths that the construction of spatial notions experiences: elaboration on the perceptual plane and then on the representative plane. "Temporality and spatiality are coordinated giving rise to the spacio-temporal organization, and it is an indivisible whole since all actions occur in a certain time and place" (Trigueros.; Rivera, 1991).

Faced with the curricular context, according to the General Education Law 115 of 1994, the guidelines of the preschool grade have as a fundamental axis children as unique, singular beings, with the ability to know, feel, opine, dissent, raise problems and seek possible solutions. It conceives their education adjusted to their social, economic and cultural characteristics; that motivates and awakens the desire to learn, to investigate, to build knowledge, to live with others, to respect and value oneself

mutually, to love and care for nature; that allows them to be more active, confident, critical, autonomous and participants in their social, cultural and environmental context.

It is important to mention in this scenario, citizen competence, which refers to the knowledge and skills that children put into evidence when they understand the regularities of the social world: they attribute psychological states to themselves and others based on their actions, they recognize the perspective of the other in a social fact, they identify multiple positions in a conflict, they establish agreements in solving a problem, understand the emotions that mediate situations, and predict future actions in an interaction.

Objectives

To know the environmental perceptions about the immediate environment, of a group of preschool children in spatial, temporal and curricular contexts of an educational community and its headquarters in Calarcá Quindío, Colombia, from the analysis of the drawing.

1. To investigate the environmental perceptions of a group of children of the preschool educational level of the peri-urban sector of Calarcá Colombia, according to their spatial, temporal and curricular context.
2. To know the perceptions that children have about their immediate environment and if they distinguish their "territory" from others far from them.
3. To determine if children distinguish between living beings in their immediate environment and those in other geographical areas.

Methodology and Method

Given the type of study, the application of a qualitative methodology was determined as appropriate since it seeks to approach the epistemic reality.

The research is exploratory-descriptive in scope. The sample corresponds to a group of 24 children at the preschool level. The analysis of the data was made from the 24 drawings made by the children enrolled in the preschool level (year 2017), of the peri-urban educational community of the municipality of Calarcá, Quindío, Colombia.

In the research process, the definition of the objectives allows to determine the categories and the construction of the conceptual framework; in which perspectives of different authors converge, which allow to understand and analyze the environmental perceptions of children from three central categories from natural, social and artificial, given in the spatial, temporal and curricular contexts. The categorical elements are presented in Table 1.

Table 1. Category matrix

Categories	Concept
Natural	The living beings of an ecosystem, the relationships between them which determine their existence. The biotic factors are the flora and fauna among others. They are the components of nature whose main characteristic is that they are life forms: Flora and Fauna Other factors that are essential in ecosystems and influence living beings such as water, soil, climate, temperature, among others. (Angel, 1996).
Social	Elements, events, or interactions that are part of a society, for example, elements such as people, constructions, and social relationships. In turn, it addresses the symbolic, political, philosophical.
Artificial	Includes activities or structures resulting from human activity in the primary or secondary sector, such as buildings, bridges, roads, vehicles, agricultural and mining activities. Also drawings product of fantasy: television series, stories etc.
(natural) Immediate environment	Refers to the educational field, understood as the subject and contents in which the various didactic stimuli implemented in the framework of Environmental Education and the territory are inserted. The territory is also understood as "a space built by social groups over time, tailored and in the manner of their traditions, thoughts, dreams and needs, territories that mean much more than physical space populated by different forms of life that relate, cooperate and compete with each other; which allows us to conceive of the territory as a relational field. (Rodríguez, 2010:10).
(natural) Living beings of their immediate environment	Refers to the educational field, understood as the subject and contents in which the various didactic stimuli implemented in the framework of Environmental Education and the territory are inserted. Evidence as in the curriculum the theme of living beings in their immediate environment and other geographical areas constitutes an interdisciplinary axis in the formation of the infant.

Source: Suárez, Cardona, Ferrandis (2019)

Category Coding

To facilitate the interpretation of the results, the elements that appear in the drawings were codified, proposing the following classification;

Category A: Spatial-temporal-curricular-natural (ETCN) is assigned a value of (1), when there is presence of living and non-living beings, according to their spatial, temporal and curricular context. For example: Plants-animals, water, soil, sun, among others. Value 0 does not provide information. This value is defined as one in which the subjects present in the drawings a scarce knowledge, about the presence of living and non-living beings, according to their spatial, temporal and curricular context.

Category B: Spatial-temporal-curricular-social (ETCS) is assigned a value of (2), immediate environment or remote environment, presence of the nearby territory. For example: people (school-playground-house). Or if they present "territories" far from them, for example, immediate environment or remote environment. Those people who represent in the drawings elements that make presence of the nearby territory belong to this value.

Category C: Spatial-temporal-curricular-Artificial (ETCA) is assigned a value of (3), Presence of the real territory and living beings of its immediate environment or presents imaginary territory and beings from other geographical areas, for example, a spaceship, among others, real or imaginary and the value 0, does not provide information. Those subjects who represent in their drawings elements within this value with respect to the presence of the real territory and living beings of their immediate environment or presents imaginary territory and beings from other geographical areas belong to this value. Knotted to the above and referring to the objective of the research project, a first approach was made to the reading of the socio-environmental realities that emerge from preschool children, the understanding of the immediate environment, the relationship with

the school and their daily lives; the feeling of each of them revealed through drawing, a fundamental pedagogical tool to express emotions, senses and represent their near or distant environment. From the above, dynamics of integration and group knowledge were proposed, in order to generate an appropriate school environment for the reading of previous knowledge in the face of environmental perceptions. For this, the support of two students of the Social Work Program of the University of Quindío was requested, with training in pedagogical play with children in preschool, who addressed, among others, "breaking the ice" activities as strategies of the "pedagogy of action".

Semi-structured interviews and drawings were used as an information collection technique in order to obtain more in-depth information on children's perceptions of the natural, social and artificial in the spatial, temporal and curricular context, accompanied by guiding questions.

The analysis of the drawings involved, first, establishing the content to be analyzed considering that the infants elaborate the drawing giving an answer to the following guiding questions: What is your environment like? Where would you take a friend for a visit? this place can be in the school, outside it, in the family context, neighborhood or sidewalk.

In order to make an approximation to the qualitative analysis, the results were triangulated from the elaboration and distinction of categories already mentioned. Categorization was a fundamental part of the analysis and interpretation of the results of the research project. What was sought was to find regularities around the socio-environmental processes under study, which allowed to discover relationships and express trends from the defined categories.

Therefore, the perceptions contained in the drawings were classified according to the categories generated. In turn, the coding process was carried out recognizing elements present in the drawings that feed each of the categories: natural, social and artificial to assign them a numerical sequence. During the process, so-called Analytical Memos emerge, which "document decisions or definitions made when analyzing the data. From how a category arises to the code assigned to it or setting an encoding rule. (Hernández, 2003: 426).

The analytical memos, constitute the ideas that arise during the interpretation of the drawings, it is about grouping the data into categories to establish similarities, differences and relationships, so the researchers abstract from the drawing elaborated by the infant and interpret on them, this epistemic vigilance originates in the grounded theory.

On the other hand, to perform the qualitative interpretation of the drawings there was an interdisciplinary team composed of professionals from the following areas:

- Researcher in Social Sciences with emphasis on territory and development, and experience in projects related to research in education.
- Researcher in Visual Design
- Researcher in Pedagogy with emphasis on environmental education.
- Experienced Social Work Students in children's pedagogy.

This team allowed to make a comprehensive reading on the drawings made by the children from the natural, social and artificial categories. Figure 1 (Phase I.S.2.) presents an example of the analysis.

Figure 1. Interpretation of the drawing of a preschool girl



Source: Suárez A. A. Cardona, L. C. Ferrandis; I. (2018). Research Project 852, Universidad del Quindío.

Results

The results have been structured based on the specific objectives that have been proposed in the research process, taking into account the triangulation given between the methodological instruments, based on a qualitative approach. In addition, the conceptual categories built in the categorial matrix are taken up and, of course, emphasis is placed on the elements of the experience given in the field.

Representation of the elements and interactions of the natural: In the case of the elements and interactions of the natural, living elements such

as trees with fruits and flowers. "Around there are several cats running around the garden" in the case of fauna ([Drawing S18](#)). Infants drew pets. In the case of flora, trees are found as the most frequently drawing, most also illustrated flowers. Only one child drew a pine tree, tree forms very common in the study area ([Drawing S7](#))

In the representation of the elements and interactions of the factors of the natural (biotic), children recognize the presence of indispensable elements in their environment, highlighting in the generality of the drawings the sun, as the most frequent element. Also illustrating elements such as clouds, water, soil and aquatic systems such as the river, the above can be seen in the ([Drawing S9 and S20](#)). In no drawing did they illustrate stars, the moon, which could be interpreted that infants have better represented the day than the night in their perception of the environment, also by the temporal, spatial and curricular context in which the research was developed.

The rainbow as an optical and meteorological phenomenon was also included, in the [drawings S12 and S13](#) you can see how it includes this concept as part of the environment conceived by the infants.

With regard to the perceptions that children have about their immediate environment and if they distinguish their "territory" from others far from them. Representation of the elements and social interactions: The main element drawn was the school, due to the degree of identity that the infant has with the school context ([Drawing S22](#)). The presence of the human figure was also notorious illustrating various people, some identified as members of the family as the father, friends or themselves, as illustrated in [Drawing S6](#).

Representation of social elements and interactions: The main element drawn was the house or dwelling as a construction, characteristic of the immediate environment ([Drawing S6 and S3](#)).

[S3](#)). The presence of the human figure was also notorious illustrating various people, some identified as members of the family as the father or the mother.

As an influence of the social environment, it was also highlighted in some drawings, the graphic representation of some positive actions or activities carried out by humans or by themselves such as: walking through the garden ([Drawing S6](#)), child who takes care of the environment, representing himself taking care of the environment ([Drawing S3](#)). Drawing actions on a personal level about environmental care reflects the concerns, but also the attitude that children could have in relation to environmental damage. King (1995) found a similar result in his research on the variety and type of concerns that 5- and 15-year-olds might have about the environmental crisis. He found that nearly half (47%) represent themselves or others with actions on a personal level for positive environmental/social change.

These last illustrations indicate that, *children grow up learning the schemes of society, family practices* (Orozco & Bustos, 2014) *and cultural norms* (Oguz, 2010); so it is necessary to be aware that, to a large extent, their lives will be determined by these factors. This research shows that they perceive a problem and demonstrate the personal attitudes they must manifest to reduce the problem. So it coincides with the appraisals of King (1995) and Barraza (1999), being evident that the drawings can provide information about the concerns of children.

The attention in it will depend largely on the degree of stimulation of the environment in which he/she develops, through objects and activities including playing with other children. Flores, Orozco and Bustos (2014), like other research on paternal influence, consider this influence to be one of the main sources of social stimuli involved in early childhood development (Bandura and Walters, 1974; Barraza, 1999).

It is at this pre-operational stage that the infant perceives his/her parents with numerous characteristics and abilities. (Piaget, 1974). In this way, parents represent an important source of stimuli in children's perception. Everything that can stimulate the child's intelligence. Intelligence in childhood develops and its degree of evolution is a reflection of social and cultural formation. (Woolfson, 2002)

As a result of the research process it can be said that, from the curricular aspect, the processes of socialization in the classroom must respond to the dynamics present in the immediate environment. In this way, the Institutional Educational Project (PEI) must be concerned because from the School Environmental Projects (PRAE) work from the multidisciplinary, where the child knows the social and natural reality given in the spatial context, temporary and curricular.

With regard to the distinction between living beings in their immediate environment and those in other geographical areas, [Drawing S11](#) is presented.

The environmental and social perception represented in [drawing S11](#), presents an imaginary territory and beings from other geographical areas. From what was related by the infant, in the drawing a spaceship, cartoons etc. are represented. It is presented as a possible city, with man-made artificial elements and something of an artificial nature. From the image, it could not be determined if children distinguish between living beings in their immediate environment and those in other geographical areas.

The environmental and social perception depicted in [drawing S15](#) does not have a clear context due to the non-figurative abstractions in the drawing. However, and referring to the way the images are distributed in the drawing, it can be inferred that the child tried to draw the school where he studies. From the image, it could not be determined if children distinguish between living beings in their immediate environment and those in other geographical areas. The results of the analysis of the drawings and their interpretation are collected in Table 2 to have an overview and facilitate their subsequent analysis that lead to the final conclusions.

Table 2. Evaluation of categories

N.S	Categories					
	A- (N- E.T.C.) Value of 1 and 0		B- (S E.T.C Value of 2 and 0)		C- (A- E.T.C.) Value of 3 and 0	
	Value 1	Value 0	Value 2	Value 0	Value 3	Value 0
S.1			2			
S.2			2			
S.3			2			
S.4			2			
S.5			2			
S.6			2			
S.7	1					
S.8	1					
S.9	1					
S.10	1					
S.11					3	
S.12	1					
S.13	1					
S.14	1					
S.15					3	
S.16					3	
S.17					3	
S.18	1					
S.19			2			
S.20	1					
S.21					3	
S.22			2			
S.23			2			
S.24	1					
Total	10		9		5	

Source: Suárez A. A. Cardona, L. C. Ferrandis; I. (2018). Research project 852, Universidad del Quindío.

The description, analysis and comments of the results obtained through the data collected, dependent on the application of the category system, and proposed values to the information given in the drawings, have allowed to respond to the research problems, which are presented more systematically in the conclusions.

According to the number of preschool children by category, it is observed that there are 42% correspond to the natural category, 37% social and 21% artificial; which indicates that children have a recognition for their immediate environment, as well stated in the National Environmental Education Policy, the reading of environmental processes requires two fundamental elements: Space and time, which are indispensable for contextual location, therefore, the analysis of the drawings allows to show that the infants recognize their local environment. From the curricular context and taking into account the findings of the methodological instrument, it is clear that the contents proposed in the subject of Natural Sciences have allowed them to have a broad perspective of the socio-environmental context, an approach to their realities, a recognition for their own, a scenario that allows to generate a reading in an integral way.

With respect to the statistical weighting, the next category with the highest percentage value is the social one, where there is a tendency on the part of children to draw the social interactions that are woven from school, with friends, games in the park. Additionally, the representation of the family in the drawings is highlighted. It is inferred that it may be related to the age of the children, in the transition process in which they find themselves.

On the other hand, in the analysis by gender in each defined category, it is observed that boys have a tendency to draw elements of the natural and artificial category, while girls choose more the social category, a result that is closely related to offering girls a good start in early childhood, since the first years of life

of a girl are fundamental. Taking into account what is stated in the Millennium Development Goals (MDGs), in their section gender equity, skills such as language acquisition, social competence, the ability to overcome, the attitude to think critically and to learn, all of them are developed in the first years of life.

For men there is a greater formation of land production and use, culturally being outdoors, and girls are more given to domestic activities.

The distribution of category by gender, compared to the results provided in the drawings from the artificial category, is inferred that it may be related by the incidence of technology, video games, television.

It should be clarified that the collection and processing of data are essentially qualitative, because they try to adopt and evidence a complex approach to reality. This favors a critical position for the detection and transformation of reality, which poses obstacles and problems.

Conclusions

The results reflect that the school context, understood as the environment that surrounds the school (such as trees, garden, etc.), generates in the children a knowledge of the local vegetation, recognizing these elements as part of their environment. In this scenario, external and internal factors, relationships, interactions converge, which in one way or another affect the teaching-learning processes of infants.

In relation to gender, the study has detected differences, since boys have a tendency to draw elements of the natural and artificial category, while in girls, more elements of the social category appear. The sense of belonging to the natural reflects an identity with its immediate environment; that is, with what is familiar or known. However, to better explain this assessment, it is convenient to inquire into the causal relationship of this category.

Barraza (2009) says "that the natural context and obviously the social one, in which the infant develops is fundamental in his/her development". Children's appreciation of reality will depend largely on the degree of stimulation of relationship and interaction with the environment (natural, social and artificial).

It can be concluded that the infants contributed from their thought elements in the drawings made, which allow to identify elements of the natural, social and to a lesser extent artificial giving an account of the spatial, temporal and curricular. In [drawing S.2](#), figure 2, an example of how they understand or perceive their immediate environment is shown. Understanding thought as the faculty of imagining, considering or running in order to generate a set of ideas that are their own. Studies on environmental perceptions show that preschool children develop perceptions towards nature (Barron, 1995; Barraza, 1999; Rickinson, 2001). However, there is a tendency in children to perceive nature as a natural entity, in which there are living elements, very little or almost non-existent human intervention.

The artificial category shows drawings that may be related by the impact of technology, video games, television, in the lives of infants.

The drawings made by the children were very useful, since for preschool children who do not yet develop oral language, the possibility of expressing themselves through drawing provided them with their own space in which they had some control over their reality, as Einarsdottir (2009) also argued. Barraza (1999) and Oğuz (2010), believe that the formation of ideas and concepts represents a complex process in which several factors can intervene: Presence of living and non-living beings, according to their spatial, temporal and curricular context. For example: Plants-animals, water, soil, sun, among others. Culture, home, school and the individual interest of each human being.

The study for the analysis of drawings was carried out using a descriptive methodology of a qualitative nature, considering it as an instrument of non-verbal communication. Our experience as environmental educators, with children in the PRAE, has shown us that to know what children perceive about their environment, it is necessary to explore non-verbal terrains, since the exclusive use of interviews and questionnaires in this group of the population may be insufficient. In this case, it is necessary to broaden the expressive horizons in the child population, and the creation of drawings is very useful to obtain information quickly, effectively and playfully.

It was very useful that the drawings were complemented with interviews with the children, to write down all the information provided by the children and helped us to analyze it later. In this sense, the study by Einarsdottir, et al. (2009) confirms that inviting children to draw their experiences and expectations facilitates the discussion of their perceptions and understandings. The authors' analysis concludes that children choose to draw because they feel comfortable and familiar with the activity. When drawing, children exert control over what they draw, what they perceive and what they understand. Drawing is a form of expression through graphic representation, which allows children in their first years of their lives to communicate what they perceive, what they feel, what they think, what they want and, ultimately, what they are. In addition, the ease that it means for the child to use this way of expressing, allows a spontaneous, creative, dynamic communication and, of course, without limits.

This study has shown that children's drawing is an important resource for collecting information in a research of Early Childhood Education, which is in the line of other authors "*Children's drawing is nothing more than the language of the child's thought and is expressed in a way directly proportional to their development*". (Alcaide, 2006:). In short, the graphic representation of children, being a

manifestation of the totally personal individual, has been the cause that has turned this means of expression into a valuable instrument of research in the world of children.

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