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Sentido de lugar en estudiantes de primaria en México: conexiones con el ambiente, la escuela y el hogar

Sense of place in elementary school students in Mexico: connections with the environment, school, and home

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RESUMEN

El propósito de este estudio fue explorar el sentido de lugar de 35 estudiantes mexicanos de segundo grado de primaria como un elemento básico para mejorar los procesos de enseñanza y de aprendizaje, especialmente en temas socioambientales. Metodológicamente, utilizamos una perspectiva interpretativa. A los estudiantes se les pidió que realizaran tres dibujos: el medioambiente, los lugares favoritos de su escuela y los de su casa. Con base en sus tres dibujos, se hicieron tres entrevistas individuales a los 35 estudiantes. Todos los datos fueron analizados utilizando el software ATLAS.ti y un enfoque inductivo. Para analizar los dibujos aplicamos la interpretación de sus elementos composicionales y para analizar el texto producto de las entrevistas usamos los principios del análisis conversacional. Los resultados indican que el sentido de lugar es una noción compleja en la que no solo están presentes los aspectos biofísicos de espacio y tiempo sino también aspectos psicológicos, socioculturales, económicos y emocionales. Los estudiantes explican la degradación ambiental indicando que faltan normas o sanciones asociadas con el cuidado del medioambiente. Asimismo, el género de los estudiantes como indicador de sentido de lugar, marcó diferencias entre niños y niñas. Finalmente, las emociones, la libertad y la autonomía son tres aspectos importantes que explican el apego al lugar de los estudiantes. En consecuencia, estos aspectos podrían considerarse en el diseño y desarrollo de estrategias de enseñanza que fortalezcan el sentido de lugar.

ABSTRACT

The aim of this work was to investigate the sense of place of 35 mexican second grade elementary school students as a fundamental element to improve teaching and learning processes, especially in socio-environmental topics. Methodologically, an interpretative perspective is used. The students were asked to draw three pictures: the environment, their favorite places at school and their favorite places at home. Based on their individual drawings, three separate individual interviews were conducted with 35 students. All data was analyzed using Atlas.ti software and an inductive approach to data analysis was used. A compositional interpretation was used to analyze the drawings. The principles of conversational analysis were used to analyze the text of the interviews. The results show that a sense of place is a complex concept in which not only the biophysical and spatio-temporal, but also the psychological, socio- cultural, economic, and emotional aspects are present. The students explain environmental degradation by the lack of rules or sanctions related to environmental care. The students' gender as an indicator of the sense of place was also different for boys and girls. Finally, emotions, freedom and autonomy are three important aspects that explain students' attachment to place. Consequently, these aspects could be considered when designing and developing teaching strategies to strengthen the sense of place.

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INTRODUCCIÓN

Our interactions with the places we live in reflect the values we assign to them, the relationships we build with them, our sense of place and our awareness of the territory in question. Research on places and how we inhabit them has shown that places are not just locations or spaces (Tuan, 1979), but complex cultural products that express how people have organized themselves.

It is assumed that all human experiences made in a place are an essential source of learning. Place is seen as the ontological condition of experience, because all experience is placeless. Consideration of the importance of the concept of place and its theoretical underpinnings has contributed to the development of pedagogical methodologies and theoretical frameworks such as place-based education (Sobel, 2005), critical pedagogy of place (Gruenewald, 2003) and sense of place (Kincheloe et al., 2006).

Consequently, the rationale behind the pedagogical development of the notion of place is to guide instructional practices in education, particularly environmental education, for individuals who have a sense of belonging and a connection to a particular place.

Greenwood (2013) notes that, paradoxically, the attention and increase in studies recognizing the pedagogical importance of place seems to be tending towards the globalization of social, political, and pedagogical thinking that is abstract and dilutes the construction of place. This has been termed placelessness (Relph, 1976).

It is of paramount importance for teachers and researchers in the field of childhood education to reinforce teaching strategies that aim to promote an awareness of place. According to Koller and Farley (2019), analyzing children's attachment to place is an indispensable element in understanding childhood experiences; in addition to how they have lived in that place and its influence on their development and well-being.

Therefore, it is advocated that the framework for understanding place from a personal perspective should be a critical pedagogy. This is because, as Gruenewald says, "the 'texts' students and teachers should 'decode' are the images of their own concrete, situated experiences with the world" (2003, p. 5). With this in mind, it is important to implement activities from an early age that promote learning based on children's interaction with their environment. It is assumed that in this way, children can develop geographical skills which, according to Utami and colleagues (2018)

> make a person can understand the connections between patterns of rivers and the physical processes that create them, between patterns of cities and the human processes that create them, and between what happens in the places in which we live and what happens in the places throughout the world near and far (p. 1).

Taking these pedagogical approaches into account, it

can be stated that the field of environmental education in Mexico still has major challenges to overcome.

According to Lara (2021), some of the most important challenges are the development of innovative forms of social learning that focus on the reflection of experiences based on life contexts and consequent lifestyles. In addition, it is important to emphasize collaborative approaches based on local contexts and learning from the inhabited place. It is assumed that didactic activities that enable the critical development of a sense of place from an early age are an element to strengthen environmental literacy.

Considering these elements, a study was developed whose main objective was to identify the sense of place developed by a group of children aged seven and eight with the main spaces they inhabit. To this end, the following research question was posed: What are the characteristics of the sense of place defined by a group of children aged 7 and 8 based on the iconic and narrative descriptions of their experiences of the key places they inhabit?

To this end, the three places where people spend most of their time are considered: a) the environment (in general), b) the home and c) the school.

Why analyse a sense of place?

The scenario of climate, environmental, social and health crisis forces us to rethink the research paths in environmental education. Postcritical theories emphasize local contexts, the subjective dimension of reality and the subjectivity of subjects (Andrade da Silva et al., 2020). One of the first steps for teachers is to recognize students' selves as locally situated so that students can later see themselves integrated into a larger whole. Recognizing the self as contextually localized in different places is part of the process of self-knowledge that can facilitate the development of environmental education to understand the world.

According to Van Eijck and Roth (2010), the notion of place is a problematic concept because as individuals we inhabit and share the world. However, it is experienced in different and unique ways. As a result, people can only explain as many natural worlds or places as they are familiar with, which can only be extended through an ideological discourse. In this way, place acquires meaning(s) and becomes a sense of place. Place, understood as a social construct and center of human experience, can be interpreted as a primary artifact of culture, evidence of the material and ideological heritage of our collective lives, and an element with direct influence on our decision making (Greenwood, 2013). The concept of place has been used as a bridge that allows for a joint analysis of the ecological and the social, as it encompasses both natural and cultural elements (Masterson, et al., 2017).

From a sociocultural perspective, sense of place has been analyzed to understand aspects ranging from the bonds that certain social groups build around their shared territory to the more specific aspects that focus on environmental education, namely the senses that

students develop throughout their lives through interaction with their environment and the ways in which these individual characteristics manifest themselves in the teaching and learning processes in the classroom (Kincheloe et al., 2006).

Studies that focus on analyzing the sense of place and its impact on science, ecology, and geography education share the idea that developing direct experiences in the environment based on the local and immediate context have high pedagogical potential (Gruenewald, 2003; Sobel, 1996).

Some studies focus on curriculum design and recognize the need to implement environmental education programs that allow students to have direct contact with the environment and evaluate their habitat. This helps to build bonds and develop a sense of place identity (Brookes, 2011). This idea implies the need to advocate for the integration of a sense of place as a theoretical frame of reference in ecological education (Orr, 1992), which could be a part of environmental education that focuses on the understanding of environmental issues and the ability to move from theory to action. It is also argued that a sense of place needs to be integrated into environmental education because if children develop a sense of place, they will take better care of the places where they live (Vickers & Mathews, 2002).

Other studies present the results of the application of learning strategies aimed at strengthening the sense of place. For example, Wilson (1997) reports that the experiences that promote the development of children's sense of place enable them to develop a sense of self alongside knowledge of the natural world. Lindholdt (1999) suggests that writing is a means through which people develop their sense of place and ecological identity, which contributes to the goals of environmental education. Researchers also note that the construction of maps based on the exploration of different places allows students to develop critical geoliteracy processes (James, 2008).

There are also studies on sense of place that focus on teachers. Faegerstam (2012), for example, notes that the concept of sense of place is still unclear for science teachers. Moseley and colleagues (2015) examined how prospective elementary school teachers perceive place and find that the elements of biophysical, sociocultural, and political dimensions overlap while being filtered through psychological elements that make up each person's sense of place.

Finally, other studies deepen the analysis of the concept of sense of place from a sociocultural perspective, considering it as a complex and multidimensional ecological system that includes physical, geographical, biological, social, cultural, and political factors, as well as the relationships to which individuals give meaning according to their history and emotional state (Lim & Calabrese, 2006; Kincheloe et al., 2006). Others consider that a sense of place has an ontological level that is part of identity constructed over the course of life experiences and is present in the classroom. For example, Adams (2014) cites the concept of multi-place to describe how a sense of place can be connected to multiple places at once through history, memories, identity and lived experiences. Other studies based on Chawla's proposal have found that places are characterized by three forms of fulfillment: Safety and belonging, social belonging, and creative expression and exploration. They argue that places that provide safety and a sense of belonging are necessary for children's early experiences and remain important throughout childhood as children live in different environments. The opportunity for creative expression and exploration leads to self-expression when children are able to create play environments that are not regulated by adults. Places that maintain social affiliations are important features of attachment for school-age children and adolescents (Koller & Farley, 2019). Emotions and feelings play an important role in these relationships that develop between place and people. Efird (2015) recognizes that it is only through feelings that it is possible to build a sense of pride in students about the ecological value of the place they inhabit. According to Kupfer (2011), the attachments that children develop to place can be enhanced or hindered by the emotional responses that occur in children when interacting with particular places.

It is with these socio-cultural considerations in mind that this study was developed. Conceptually, it echoes the proposal of Lim and Calabrese (2006) and Kincheloe and colleagues (2006) in recognizing that sense of place is complex and multidimensional. Our interest in investigating this topic stems from two areas: First, we want to address the challenges that environmental education still faces in Mexico, and second, we work as elementary school teachers in an urban context and find that students are increasingly disconnected from their environment and more focused on virtual environments (e.g., cell phones, television).

We believe that teaching based on complex concepts such as "sense of place" allows us to counteract the predominance of a disciplinary curriculum that prioritizes the division of knowledge into disciplines and limits the development of a critical and global vision of the environment.

METHODOLOGY

The research was conducted from an interpretive perspective, in which the reconstruction of reality through the participants' visions represents the most important information (Denzin & Lincoln, 2005).

Context and participants

The elementary school where the study was conducted is located in an urban environment, south of the city of Guadalajara, Jalisco, Mexico. The socio-economic status of the community in which the school is located is low. The schooling of most parents is incomplete and middle school.

As this is a qualitative research aimed at understanding and exploring an educational reality, the criteria for selecting the sample were linked to the possibilities and needs of one of the authors who, as a classroom teacher, recognized the need to explore his students' sense of place as a basis for developing environmental education strategies. It is worth highlighting the relevance of developing this type of research with children living in urban contexts, as it has been shown that people living in urban areas rate their connections to the biophysical aspects of place much lower than those living in non-urban areas (Ardoin et al., 2019).

Given the ethical aspects of the research, parents and

children were asked for their consent to collect data, and all agreed. As we children are minors, it was the parents who signed the consent. All parents signed the informed participation agreement. The project and the consent forms were approved by both the ethics committee and the head teacher. For data protection reasons, all signed consent forms were handed over to the school principal for archiving. The group in which the study was developed consisted of 35 students, 19 girls and 16 boys. The students were between seven and eight years old. Pseudonyms were used to protect the identity of the students.

Data collection

The study was developed over four consecutive months. Three activities were selected for this study: the environment, their favorite places at school and their favorite places at home. In these activities, drawings of the places and interviews based on the drawings became the main sources of data. First, the students were asked to make an individual drawing of the environment, then the individual semi-structured interviews were conducted. The aim of the interviews was for the students to explain their drawings and the meaning of what they had drawn. The same dynamic was used to create drawings and interviews about favorite places at school and at home.

Data analysis

The type of data determined the method of analysis. Thus, compositional interpretation was applied to the drawings, and the principles of conversation analysis were used to analyze the transcriptions of the interviews.

The drawings served as a mediator to explore the meaning that served as the basis for the analysis of the individual interviews. According to Wertsch (1993), the image can and should be read as an instrument and mediator from which the individual builds a cultural reality to change his world and himself. Its power to communicate is sometimes more powerful than words.

Furthermore, visual methods have shown their usefulness for investigating perceptions around the development of sense of place (Lee & Abbott, 2009). In this study, compositional interpretation was used to analyze the drawings made by the children. According to Rose (2022), compositional interpretation is a very particular way of looking at pictures. It focuses most on the image itself and pays the most attention to its compositionality (elements in combination). In the case of the drawings, the analysis consisted of determining what they drew, guided by three main questions: What kind of elements did they draw? How many elements did they draw? How did they draw them?

The selection of drawings that served as examples to illustrate the results was based on two aspects: a) the visual clarity of their components, b) the fact that the components were common to the group they represented.

In addition, the interviews were transcribed and the units of meaning were identified using an inductive approach to data analysis. The basic principles of conversational analysis, in which discourse is studied as communicative interaction, were followed (Drew & Heritage, 1992). Conversational analysis focuses on meanings based on ordered verbal utterances. It aims to discover the discursive organization of discourse based on centered face-to-face interaction (Goffman, 1983). They define conversation as a special case of centered interaction in which at least two participants communicate verbally (...) in such a way that: (1) they speak not only concomitantly with another activity, but about a topic that is the focus of their cognitive attention (in our case, the drawing being made), and (2) they practice turn-taking at least once. These principles contributed to a very detailed analysis of the interviews, which was developed in such a way that units of meaning emerged. The construction of these units of meaning was supported by the Atlas.ti 7 software.

The units of meaning that emerged from each of the activities are as follows (table 1).

Table 1
Activities and units of meaning

ACTIVITIES	UNITS OF MEANING
Meaning of the environment	Vision of the environment Behaviors towards the environment (pro-environmental and anti-environmental) Culture of rules
Favorite places at school	Place and freedom of movement Customization of place according to gender
Favorite places at home	Attachments to intimate space Distribution of physical space Place and sedentary lifestyle Family/emotions/place

RESULTS

The compositional interpretation of the drawings, as well as the interviews based on them, formed the elements that allowed us to understand the construction of a sense of place for students. These elements are considered as a basis to identify not only prior knowledge and ideas, but also emotions, attachments and more generally the experiences that children have with inhabited places.

Meaning of the environment

From the activity of drawing the environment and the interviews based on the drawings, three units of meaning were identified to explain the elements and interactions with and within the environment.

Vision of the environment

The elements that integrate the drawings of the environment were divided into two groups: natural and man-made spaces. The students' visions of the environment associated with nature appear in only 23% of the drawings, in which the predominant natural elements

(NE) are: 87 trees, 68 clouds, 51 flowers, 40 animals, including birds, dogs and cats, 39 humans in 15 drawings (20 students did not draw humans), 16 suns and 4 streams or rivers.

In 77% of the drawings, the vision of human-built spaces (HBS) is distributed as follows: 40 dwellings (houses and apartments), 29 transportation, 29 roads, 10 trash cans, 7 schools, 2 hospitals, 7 city signs, and 1 swing.

It should be noted that people only appear in 15 drawings. They are located in natural spaces, along with trees, rivers, animals, etc.

Figure 1
Drawings of the environment; on the left; NE, in the middle: HBS and on the right: natural elements in interacion with man. Drawings elaborated by student 6, 11, and 20 from left to right.
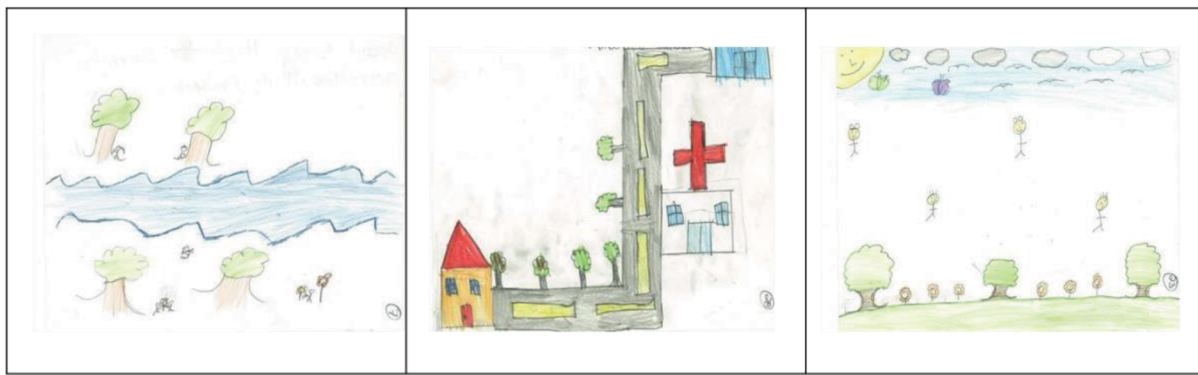
Most students exclude humans as part of the environment. They associate plants and animals as exclusive members. You can find an example of this in the following interview fragment.

> St: I was drawing trees through … trees and clouds … and a sun because I don't know how to make animals.
> T: Ok … and what is part of the environment?
> St: Animals, fish, plants … cows.
> T: Ok, are people part of the environment?
> St: No.
> T: Are we not part of the environment?
> St: Well, we are not animals.

A first aspect to consider in this activity is the need to develop a systemic way of thinking in which the interrelationship between man and his environment is strengthened.

The idea that excludes humans from the animal kingdom, and therefore from the environment, could be an expression of a reductionist doctrinal approach or an anthropocentric view. It is therefore important to develop a complex and systemic view between humans and the environment from an early age.

Considering that most of the drawings represent urban spaces (77%) and only a few natural spaces (23%), the importance of green spaces and their benefits could be

explained to students. This should focus on the importance of the connection between students and the natural environment so that they learn from an early age to appreciate and care for the services provided by the ecosystem.

Behaviors towards the environment

Although the prevailing view among students excludes humans as part of the environment, they recognize that humans interact with their environment through their behaviors, which we classify as pro-environmental and anti-environmental. This classification is based on the direct impact of humans on the environment. The following fragment is an example of pro-environmental behavior based on caring for plants and animals.

> T: Do you take care of the environment?
> St: Yes.
> T: What do you do?
> St: I collect.
> T: What do you collect?
> St: Garbage … irrigate … I throw dirt on them.
> T: What do you throw dirt on?
> St: To the plants.

Anti-environmental behaviors are attributed to those who, as a result of their actions damage the immediate environment through animal abuse, cutting plants and littering.

Example:

> T: Ok… do you take care of the environment?
> St: Yes.
> T: How do you take care of it?
> St: Not littering.
> T: Of course, if you see a little fellow littering… do you say something, or you do not say anything?
> St: I tell her not to litter, because it is bad, and it pollutes the water and it can kill animals.
> T: Mmm… what if humans drank dirty water… contaminated?
> St: There are some who can die.

Culture of rules

Students in this study emphasized the need for environmental guardians to be responsible for regulating behavior toward the environment in the context of school and family. See below.

> T: And how can that be solved? How can children throw garbage in its proper place.
> St: Watch them.
> T: The children?
> St: nodding (in affirmation)
> T: But who would watch them?

> St: The teachers.
> T: But there are only six teachers … and there are more than two hundred students … there are many more students than teachers.
> St: Then … the children can take care of the environment … to watch over them.

The behavior towards the environment as well as the culture of rules allow us to point out the outstanding debts in the environmental education of students, since the above aspects are reduced to behaviors and, depending on them, to rewards or punishments, disregarding the complex and systemic view between the individual and the environment.

In order to graphically summarize the meaning that students attribute to the environment, a diagram was designed with symbols representing the natural and constructed elements and interactions that students perceive in their vision of the environment. On the right side are the man-made elements that are part of the inhabited places and on the left side are the natural elements.

At the bottom center, the silhouette of a man and a woman illustrates the presence and intervention of humans in the environment, see figure 2.

Figure 2
First dimension in the construction of a sense of place: Meaning of the environment.
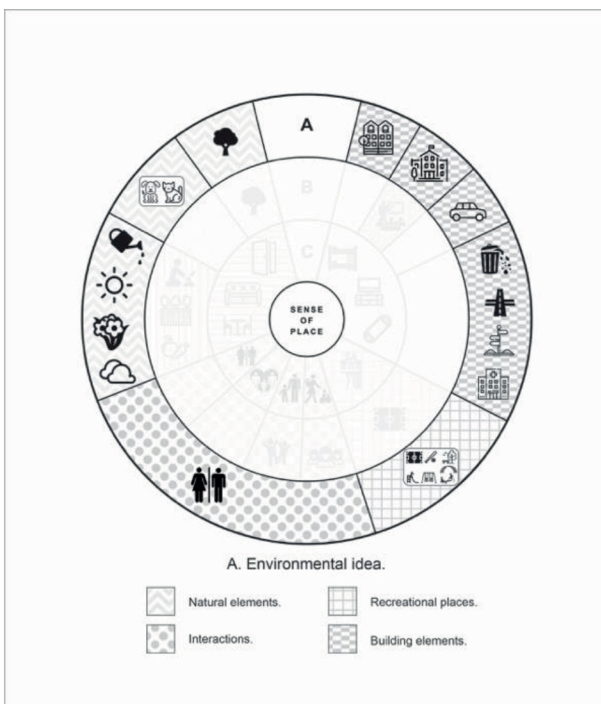
Favorite places at school

The analysis of the drawings and interviews around the school shows that the students' favorite places in the school are distributed as follows: Green areas (52%), schoolyard (23%), sports fields (14%), computer room (5%) and common room (2%). The absence of the classroom as a favorite place should be emphasized, which represents a major challenge for teachers.

As a result of the activity, two units of meaning emerge, indicating a preference for places to have fun outdoors and the appropriation of places according to gender.

Places and freedom of movement

In the following transcript of an interview, favorite places at school have two characteristics. First, these spaces are open , which allows for recreational activities such as running, jumping rope, and/or playing soccer. Second, they are characterized by the absence of teachers or adults who may restrict their freedom of movement. The preference for places such as orchards, fields, planters, bleachers, and uneven terrain, which they call the deep low, is determined by physical movement activities, mainly games:

> T: What did you draw?
> St: This space behind to the principal's office.
> T: Which one?
> St: The one here (indicates the opposite building).
> T: Why is this your favorite place?
> St: Because I come to play with my friends, and we play without supervision we play and...
> T: What do you play?
> St: Mmm... We play different kind of games in which we have to run... like hide and seek, you're it, delighted.
> T: Games in which you must run?
> St: Yes.

Customization of a place according to gender

The students appropriate spaces through games and design these places individually. This became clear when we analyzed the drawings and interviews, using gender as a filter. For example, male children prefer games that require running, such as soccer, by appropriating playgrounds or wide green spaces. Girls, on the other hand, choose places with a greater presence of natural elements for leisure activities such as jumping rope, jumping from one step to the next or talking to each other in green spaces. In each space, boys and girls create their own norms and conditions and the inclusion of new members based on the interests of each gender. See below:

> T: How does one have to be, to be your friend? Do you play with everyone?

> St: I play with anyone just for the fun of it.
> T: And why not girls?
> St: Because the girls... is that first... one day we played with them... me and all my friends with whom I most hang out, we played and, they didn't catch us and nothing else that's why... they kicked us out of the game.
> T: Did they get angry and... stopped playing?
> St: Yes, they got angry because they didn't catch us.

The following fragment is the case of a girl who explains her preference for spaces shared with others. At her age, as with her peers, interaction with boys is rejected because they are seen as too aggressive.

> T: How do you feel?
> St: I feel comfortable because I am with my friends, and we don't fight.
> T: Who are your friends?
> St: Well, right now I'm fighting with some, but the only one of the girls who talk to me are: Milagros, Evelyn and Tamara, and the children who are very aggressive, before I used to hang out with them but we do not get together anymore because they are very aggressive.
> T: Did they hit you... the children?
> St: A little boy named Arath.
> T: Did he hit you?
> ST: Well, every now and then when he sees me, he avoids me.

It was found that 75% of boys and 79% of girls stated in the interview that they only play with peers of the same gender during recess.

In short, the preferred places in school are open spaces that promote a sense of freedom of movement and autonomy, such as the public schoolyard and areas that have a greater presence of natural elements. The school garden was named as a favorite place by 62.5% of the children. The school garden is a place that students associate with emotions, with 42% of students stating that they feel happy when they are planting and harvesting.

Figure 3
Examples of favorite spaces in the school. Drawings elaborated by student 9, 18, and 32 from left to right.

Considering that students enjoy the spaces outside the classroom, they can be used by teachers to achieve better learning. Working with school gardens can be a strategy and a good learning opportunity.

In circle B, the activities that are done in favorite places in the school are shown with symbols, on the right side are the activities that are done in the classroom, below are the recreational activities by gender, on the left side are the activiti es related to the school garden. See figure 4.

Figure 4
Second dimensión in the construction of the sense of place: Favorite places in the school

B. Favorite places at school.

Natural elements.   Recreational places.

Scholar orchads.   Academic activities.
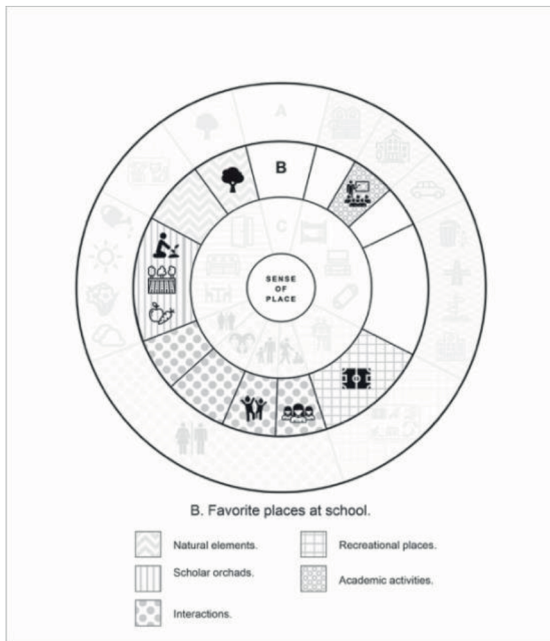
Interactions.

Favorite places at home
Intimate values are found to be transferred from favorite places to the home based on interaction with others and with the environment. Four units of meaning have emerged from this activity.

Attachments to intimate space
Preferred places at home are spaces that belong to them or that they dominate through games of imposition in their interaction with others, for example the bedroom, see next interview fragment.

> T: Ok, well, if you could choose only one favorite place from all those you told me; bedroom, your bedroom, and the garden, which one would you like most of the three?
> St: Of the three? ... my bedroom with my sister.
> T: Why?
> St: Because there we spend more time playing than watching television and playing with cousins.

Distribution of physical space
The distribution of space at home is at follows: 36% of the places are occupied by more than one family member, 27% share the room with at least one of the parents, 45% with siblings who are about the same age. The preference for one place reflects the need to preserve one's individuality through phrases such as: my

bedroom, my bed, my toys. The assignment of responsibilities is also vertical, i.e. adults such as grandparents, parents or uncles assign tasks to all children entrusted to their care.

Place and sedentary lifestyle
In terms of preferences, 90% of students prefer rooms with a television, as well as using items such as toys, sitting on furniture and consuming television and internet programs. These are activities that encourage a sedentary lifestyle. In addition, interaction with telecommunications alienates children from the natural world as they develop a fear of the future due to the expanding global environmental problems.

> T: How many TVs do you have in your house?
> St: We have... in fact my mother had one of those just... and had one of those, they have not bought her one, they have not bought another.
> T: And how many TVs are working?
> St: Mmm... three.

Family/emotions/place
Performing physical activities as a family becomes forms of living together that allow for the exploration of the immediate environment and the strengthening of emotional bonds. The sense of connectedness for people is created in the common place through interaction in one place. The next case is the description of

emotions in a shared space.

> T: And what is your mother doing there?
> St: Watching TV with me.
> T: How do you feel when you are watching TV accompanied by your mother?
> St: So calm and happy.

Although the home represents one of the most intimate spaces, the elements that can be identified are essential elements that teachers should consider as elements that influence learning; and these can be the emotions within the family environment or the activities they engage in. Recognizing that video games or television programs are an important part of students' lives is an important aspect of reinforcing activities that reconnect them with nature and not just virtual reality.

In general, emotions associated with home are positive, but it is important to note that 5.7% of students reported sadness associated with home spaces due to father's absence due to divorce.

Figure 5
Examples of favorite spaces at home. Drawings elaborated by student 13, 22 and 29 from left to right.
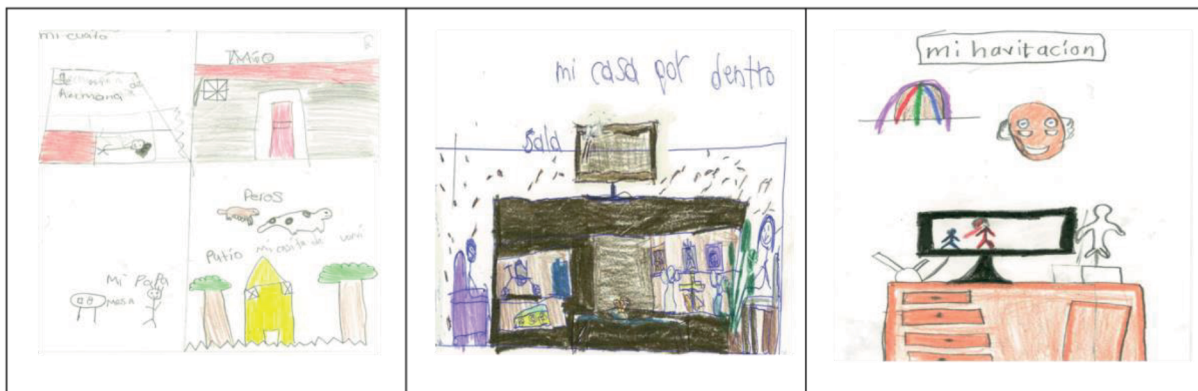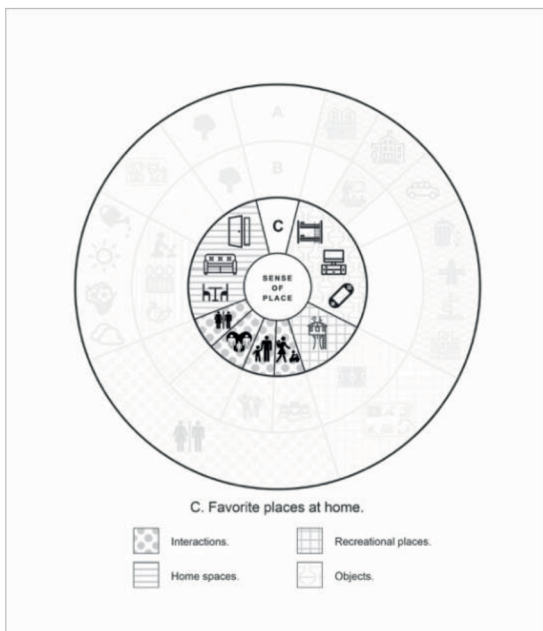

The following diagram, circle D, shows the preference for common places at home. Interaction with others favors the development of an emotional bond with the place. The distribution of inhabited space encourages a sedentary lifestyle, see figure 6.

Figure 6
Third dimension in the construction of the sense of place: favorite places at home

Finally, the following diagram emphasizes the elements that are part of the students' construction of a sense of place. In the previously inhabited places, which were analyzed separately, it can be seen that the natural elements as well as the interactions in the shared places recur in all activities. They also share their favorite places with their family and friends to whom they have an emotional attachment. See figure 7.

Figure 7
Model of construction of sense of place in elementary students in the inhabited places
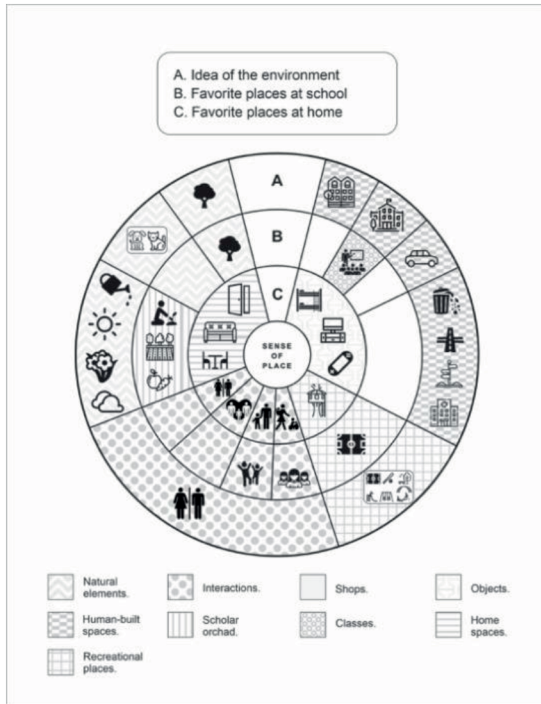
DISCUSSION AND CONCLUSIONS

The results of this study allow us to confirm that research on sense of place, whose aim is to understand how children relate and make connections with the places they inhabit, provides relevant information, and has implications for the field of education in general and environmental education in particular.

It has been established that sense of place is a complex concept, involving not only the biophysical and spatio-temporal aspects, but also the psychological, sociocultural, economic, and emotional aspects that arise from people's interaction with places. Only by taking these multiple aspects into account can we understand the connections to places, the ties and experiences that enable the construction of meanings.

More specifically, the analysis of primary school pupils' sense of place suggests that:

Emotions as ways of inhabiting the world

By drawing favorite places in inhabited spaces and conducting interviews based on the drawings, we were able to determine that students are emotionally attached to a place. These emotions arise during interactions with others with whom there is an emotional bond. For example, a place becomes more meaning-ful to students when it is shared with family and friends, which mainly evokes pleasant emotions. Emotions are also present in interactions with the environment, for example in the school garden where students reported feeling happy when they produced food. This idea aligns with that of Efird (2015), who recognizes the importance of emotions in environmental learning, as it is only through them that it is possible to build a sense of pride in students related to the ecological value of the place they inhabit.

Furthermore, an emotional attachment to a place enables the development of a sense of meaning and identity (Sobel, 1996). In our case, students expressed their attachment to the places where they interact with nature (school garden, yards, parks). At home, emotions are associated with spaces shared with the family, but also with intimate and personal spaces such as one's own room. Furthermore, home was the only place where some students expressed feelings of sadness related to the absence of their father. According to Kupfer (2011), children's attachment to place can be helped or hindered by their own emotional responses to particular places.

Emotions only emerged explicitly when students talked about their favorite places at school and at home, but not with the environment. Consequently, the role of emotions in the construction of sense of place may be

an important element to consider when designing instructional sequences that enhance students' education, particularly environmental education.

Gender and its implactions in the selection of places and activities

It is assumed that gender as a socio-cultural construct played a significant role in the classification of both activities and spaces. In the case of school, gender roles and the activities carried out in certain spaces were determined by gender. For example, boys play on soccer fields and girls jump rope in yards or green spaces. This aspect should be considered by environmental educators when contextualizing learning in the social and environmental domain. According to Mueller Worster and Abrams (2005), the contextualization of learning depends on the development of skills that enable students to build knowledge and strengthen a sense of identity. The results show that gender is a fundamental element that marks important differences in the construction of sense of place.

The reductionist and normative vision of the environment

In the specific case of environmental visions, the only alternatives that the students mention in relation to caring for the environment are mainly related to not producing waste, followed by caring for plants and animals. Likewise, they suggest the application of sanctions or punishments for those who transgress the environment. Consequently, it is recognized that environmental education must pay attention to developing a responsible and ecologically literate citizenry, as the idea of interpreting and understanding nature's systems as interacting elements has not yet emerged (Orr, 1992). It is suggested that if students are educated to enhance their sense of place, they will appreciate and care for their environment without the need for rules to punish those who do not. Improving sense of place will enable students to be environmentally responsible citizens.

Freedom and privacy in the construction of the sense of place

Aspects such as freedom and privacy proved to be key elements in the choice of preferred locations. While freedom was associated with group leisure activities in places such as soccer pitches and green spaces for running. They protected their privacy in places such as their rooms or spaces where they play games. It is believed that there is a common aspect in both spaces that is related to the need to exercise their autonomy without authority or power figures such as parents or teachers. According to Kupfer (2011), autonomy gives children the creativity and freedom they need to develop an attachment to their own spaces.

It should be noted that favorite places at home are influenced by the presence of video games or television. Rogers (2012) argues that when children have access to autonomous places that are not supervised by adults, they build their own social relationships and make their own rules.

Another consideration points out that in the case of school, the classroom was not mentioned by any of the students, from which we can conclude that it is not a place where they like to be. However, other areas of the school such as sports fields, green spaces and recreational areas were preferred. According to Lee and Abbott

(2009), schools are considered places for young people to socialize and participate in physical activities and are therefore further discussed in the contex t of friends, sports, and physical activities during leisure time.

In this sense, Gruenewald (2003) states that the critical pedagogy of place encourages teachers and students to re -inhabit their places so that they seek the kind of social action that improves the social and environmental life of places near and far, now and in the future.

Finally, this approach assumes that strengthening a sense of place from an early age serves to develop citizens who, through their education, can improve the way they inhabit the world. It is recognized that this challenge encompasses different dimensions and actors, ranging from educational policies that promote curriculum redesign to include place- based education, to pedagogical activities in the classroom, collaboration with parents and, more generally, a social engagement of citizens with their environment.

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