International Cartographic Association
Association Cartographique Internationale

Spatial representation and the place-territory relation

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Keywords: Cartography, Early Childhood Education, Geography, higher psychological functions.

Abstract:

Cartographic literacy precedes the learning of map codes, since it addresses the notions of orientation and mobility in space, the acquisition of graphic language, considering the drawing as a spatial representation and understanding the social function of the map. Thus, the objective of this research is to establish theoretical and methodological references about drawing as a system of spatial representation in Early Childhood Education. For this, we aim to contextualize the representation of space by the child when mobilizing the study of the city, through perceptions and experiences. The activities with the children will provide them with conditions to express their memories and imaginations about the territory, considering reference points and different ways of representing space. Both the drawing of space and cartography have the same nature, graphic representation; therefore, drawing is part of cartographic literacy, the first writing regarding space. Cartography and drawing are systems of representation, each with its own peculiarities in communication, as they are intended for different purposes and readers. In this sense, it is essential to understand learning and acquisition of language throughout school education integrating the different segments and to investigate the cartographic initiation in Children Education - children ≥ 4 years old – considering that the formation of spatial thinking is the common aspect to all segments and age groups.

Children's maps introduce notions of space representation, as well as the function and conception of the map as a social production. While drawing, children think about space and some geographic knowledge can be introduced. For this, we designed the research 'Drawing as a representation system and spatial thinking: a cultural-historical approach in school cartography' based on two aspects: a) the creation of conditions for children to represent their perceptions and experiences in the city, considering spatial references and their own body; b) involvement of the higher psychologic functions and creative activity (Vygotsky, 1986) in the formation of knowledge regarding the city. These two aspects are based on the premise that if spatial-temporal thinking is initiated in childhood (Trepat & Comes, 1998), within social groups, spatial representations about the city can be developed, and a series of concepts can be mobilized from children's experiences and perceptions. This research starts from results published by Juliasz (2021) about the importance of drawing and speech in the representation of space by children.

A map by a child is the expression and communication of a spatial thought imbued in the child's culture in dialogue with the spaces experienced, i.e., it is the language that concretizes his/her thinking. Mapping involves creative action, since the child communicates through different expressive languages, such as drawing, sculptures, and games, in which memory, attention, imagination, and dialogue between children and adults. Through its principles, geography education contributes to the recognition of the cultural dimensions of different places and the interaction between different societies and the environment (Catling & Willy, 2018).

This knowledge systematizes the reading of the world, the understanding of spatial formation, production processes and the relationships between the social dimensions of people's lives. The analysis of a spatial problem requires answering the question 'where?' using the geographical principles (location, distance, extent, distribution and scale), because when analyzing a given element of reality through geography, we locate objects, their distribution and distance and limit their extent according to a possible scale, relating the objects space in its entirety (Gersmehl, 2008; Helfenbein, 2010). Spatial representation, such as drawing, is a way to concretize spatial thinking and provides us with information about the subject's reading of reality, allowing them to express their imagination and memory - a predominant function in preschool age - about an object or place. We recognize the need to understand and analyze the elements that make the drawing of space, as part of cartographic literacy, a system of representation that precedes the act of reading and making a map, engendering the creative activity of children through the relationship between imagination and memory. This type of spatial representation allows embryonic relations between geographic principles (such as location) and those involved in cartography, by creating codes and graphic equivalents.

From a child's drawing, we can investigate the spatial organization in graphic space, understand which element in a scene establishes the set relationship, and thus understand the point of view of the child who draws. Drawing expresses spatial

https://doi.org/10.5194/ica-abs-6-114-2023

thinking, which consists of the human cognitive ability to think of referentials, movements, orientation, and information in and from space, because when the child draws a place, he/she develops a creative activity through the cognitive mechanisms of imagination and memory, and a graphic and mental representation occurs. The drawing allows us to understand the perception and conception of the child about space, because "it is the projection, in the space of the paper, of the spatial perception experienced by the child" (Derdyk, 2010, p, 81).

Thus, it is necessary to develop the place-territory relation, considering the Childhood Geography, since "for children the spatial practice is a practice of place-territory, they apprehend the space in their experiential scales, from their peers, the adult world, the society in which they are inserted" (Lopes, 2008, p. 78). This project seeks to provide tools to understand the meanings that children attribute to the city, the different ways of representing space and the characterization of the city in the children's imaginary, as well as their reality. Thus, the project involves the development of spatial thinking and geographic reasoning in a contextualized way from the notion of territory-place with children. Therefore, this project is justified by the involvement in territorial studies and forms of spatial representation by children who live, think and act in the territory. Thus, the project starts from the perspective of self-knowledge and territorial belonging and the importance of expression through the expressive languages of childhood and is inserted in the research group Cartography and Spatial Thinking in Geographic Education (CPEGEO), so that, through the planned activities, developed, recorded and analyzed, it seeks to contribute to the references about the representation of space and development of spatial thinking.

For this, a class of 28 children in a public school in the city of São Paulo was observed, which allowed us to outline and plan teaching activities about maps. Such activities were centered on the study of the school's surroundings, in a central region of the city, working on the relationship between territory, place and children, based on critical historical pedagogy, considering social practice as a starting and ending point and its intermediate elements (problematization, instrumentation and catharsis). This theme favors the systematization of geographic knowledge and will enable the expression of spatial thinking by the children through their drawings and expressive languages. We plan to have 4 meetings, the first activity with the whole class, with the objective of introducing the theme and getting to know the main ideas of the children, the second and third meetings will be moments interspersed by collective activities and small groups (at least 8), and the fourth meeting will be a final meeting with collective production. The children will present their ideas, impressions and reflections about the daily context of the city and their relationship with urban space. These activities will be recorded through voice and video recorders, because it will be essential to capture how children represent their thoughts about space through speech. The investigation will analyze how the higher psychic functions were mobilized by the proposed activities, since the attention, memory, thought formation and imagination are expressed in the recordings, drawings and planning. We understand the need and the possibility of analyzing the relationship of these functions with the expansion of spatial thinking through teaching situations with a geographic focus.

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https://doi.org/10.5194/ica-abs-6-114-2023