

A STUDY ABOUT THE CARTOGRAPHIC LANGUAGE AND THE REPRESENTATION OF SPACE IN THE CHILD EDUCATION

STRINA JULIASZ P.C., DOIN DE ALMEIDA R.

UNIVERSIDADE ESTADUAL PAULISTA - UNESP, SÃO PAULO, BRAZIL

In Brazil, studies about cartography teaching at school began a few years ago with isolated researches. However, the gathering of these projects and the creation of discussion occurred in 1995, in the “I Colóquio Cartografia para Crianças”, in the city of Rio Claro, when the first book containing these studies was published. The II Colóquio Cartografia para Crianças” – held in 1996 in the Federal University of Minas Gerais, consolidated the initiative.

Since then, events have been held for the dissemination and organization of this area of research. Between June 17 and 19 2009 the VI Colóquio de Cartografia para Crianças e Escolares, Federal University of Juiz de Fora, was held when there was a broad discussion about issues that require further research. Among them, the studies about childhood were considered one of the most important.

The understanding of children’s graphic representation is present in studies related to school cartography, concerning the drawing as part of cartographic initiation, which was the subject of some previous research. However, an issue has not been sufficiently studied yet, which will guide this study: “The relations between the spatial representation by young children, the sense of time-space development, the motor development and the corporal schema”.

Drawn upon this issue, the research, master's degree level, entitled "A study on cartographic language in the child education" started in 2010 (research developed in the Post-Graduation Program of São Paulo States University – UNESP – campus Rio Claro (SP), funded by Fundação de Amparo à Pesquisa do Estado de São Paulo - FAPESP). This paper aims to present the Project of this research.

We conceive cartography which is pertinent to childhood, adopting the concept of drawing as a language and as the first written expression of a child, being a graphical representation endowed with a number of elements concerning cognition, culture, motor development and affectivity from one who produces it.

One of the studies that support this conception is the chapter "O desenvolvimento da escrita na criança” (The development of writing in children) contained in the book called in Portuguese *Linguagem, Desenvolvimento e Aprendizagem*, (Language, Development and Learning), in which Luria (2001) states that writing established before knowledge of

letters. And in this sense and context of school cartography, one can say that drawing, as the first graphic expression is an early representation of spatial which is prior to knowledge of cartography and their signs.

In publications that deal with child development, we found elements that allowed us to design a study with focus on space-time organization concerning not only the cognitive development, but also the sensory-motor systems and body and language experience. We take as reference the studies by Liliâne Lurçat, Henri Wallon, Marie Germanie Pêcheux and others.

From these readings, we notice that postural acquisitions are founding of the time-space organization and orientation and their representation. We note an important relationship between the construction of the character’s figure and the representation of space: the verticality of the body. From an orthostatic posture, the vertical form of the human body and its displacement on the earth surface act to apprehension of spatial information. This can be exemplified by Almeida (2009) stating that the childhood verticality of the body occurs as the child starts drawing the human figure.

In this sense, there are several studies published on the drawing of children and they bring up two questions about factor of verticality: a) the strong relationship between the development of body structure and development of the human figure drawing, b) the onset of figuration.

Therefore, the bodily experience becomes an important factor, because as children develop their corporal schema will make the representation of human figure with more details. Thus, one can speak of a space of the body as Derdyk (1989) points, because the expression of the spatial perception in the paper reflects the children’s corporal perception.

The author says that at first, their graphic space is the space of the body and gesture. The drawing is the projection in space of paper about the spatial perception experienced by children.

In line with these studies, one can check that official documents guide the school content of child education. In Brazil, this document was named "Referencial Curricular Nacional para Educação Infantil" (National Curriculum for Early Childhood Education) and there is an area called "Movement", which in turn is presented in two blocks: expressive possibilities of movement and movement instrumental characteristics.

This document (Brasil, 1998) says that the work with the movement contemplates the range of functions and manifestations of motor act, providing a broad development of specific aspects of motor functions of children, covering a reflection about the body positions involved in daily activities, as well as activities about the broadening of the corporal culture of each child.

The corporal experience becomes an important factor, because as children develop their corporal schema the graphic representation of the human figure will be more detailed.

The corporal experiences in space provide the internal spatial organization representations which are present in the human figure. These representations are

originated from the conquest of the ability to produce closed forms that generate the tadpole figure in the representation of a character, which later creates dissatisfaction with the property to represent the body. Hence, as to what we consider a cartography on the childhood, the verticality of the body has a pivotal role.

Almeida says that the building of the corporal schema is a fertile area in which the ideas of other spatial coordinates arise. The verticality becomes the most important aspect of the human spatial organization. Therefore, it is in childhood that the notion of spatial coordinates is originated. The design of a character is not just a drawing, as it brings in itself the germ of the mapping. (ALMEIDA, 2009, p.6)

Other issue raised in the researches on infant drawing is the figuration which, along with the preoccupation of imitating the real initiates the spatial representation itself. However, it should be understood that this concern is part of a process, which is preceded by the development of children in different spaces. Prior to assemblies and spatial categories established by science and culture the infant space is related to that originary space mentioned by Merleau-Ponty, open existential space, constituted by the body (MEREDIEU, 1974, p.42).

This process starts in preschool phase, from three ages, when the children aware of their body and the imitation of the genuine and constant presence of graphic forms related to corporal experiences in space and corporal schema. With this, these factors support the organization of space, and the verticality is the central axis defining the coordinates and all the spatial orientation and its representation (ALMEIDA, 2009).

These questions underlie and justify the research which will be presented, which aiming to organize a collection of records of teaching situations with school practices to children 3 to 4 years in a preschool class. This collection will enable us and other researchers to analyze how children of this age deal with situations that mobilize time-space-body relations. We emphasize that this research includes the need to devise an appropriate infant cartography. It is worth noting that although the period considered as "childhood" extends to 12 years, we will address here children between 3 and 4 years, because it is the initial segment of the children education.

APPROACH AND METHODS

After understanding the importance of studying the issues about notion of time-space-body of children to thereby design cartography relevant to childhood, we can know the chosen approach to direct the development of this research.

In the current stage of research, thought-provoking situations taken from the childhood's universe has been created, allowing meticulous records of teaching situations with use of resources such as sound recordings and video, diary notes in class.

And then the objective is to understand the standards established in graphical representations made by the children and the influence of groups in the productions and demonstrations by students, about activities that mobilize the notions space and time. With this collection, we will be able to discuss broader issues related to geography and childhood.

With this, the proper approach to the development of this research corresponds to the qualitative method, because it has features that allow researcher to broaden the involvement with the environment studied, since the main source of data is the environment and the subjects found therein. With this, a descriptive study is necessary, in which the investigator falls in this environment and extracts the necessary information to carry out the study (BOGDAN & BIKLEN, 1994).

Thus, anchored in an inductive data analysis, the interest will be focused primarily on the research process, staying in the background which can be obtained as a result, so the focus is also on the meaning

established by individuals to their experiences. Such experiences are understood as what we go through, what happens to us, what touches us. (LARROSA, 2002, p. 21).

This methodology comprises that the investigator's presence at the site of study allows the understanding of individual actions, in their usual activities and environments, aiming at a certain approach between researchers and researched.

Thus, the qualitative approach assumes little distance from the researcher, because the process of conducting qualitative research reflects a kind of dialogue between the researchers and subjects, as they cannot be addressed by those in a neutral manner. (BOGDAN; BIKLEN, 1994, p. 51).

Thus, according to Erickson (1989) the qualitative method is based on intensive and long-time involvement in the field, careful record about of events on the field, analytical reflection of these records, and written record of participatory observations.

From this perspective, the researcher should try to find ways to understand the significance of the manifest and behaviors of individuals, while seeking to maintain its objective view of the phenomenon. The researcher should play a subjective role as participant and objective role as observer, assuming a unique position to understand and explain human behavior. (LUDKE; ANDRE, 1986, p.15)

The researcher will play the role of the participant and observer, reflecting about the children's experiences and the narratives made through observations in the classroom. The narrative investigation becomes a suitable methodology for this research. This instrument, as Zabalza (2004, p.10) is a resource for reflection about professional practice and therefore a tool for development and improvement of self and professional practice. In this case, there is the teacher-researcher, with reflective posture into the context of school culture in which the learning moves to a constantly changing students' knowledge and there is a constant search for new practices

The study through narrative is the study of the way human beings experience the world. With this, through the activities with students, the narratives about the events and dialogues of the students have been did, allowing the various selves to emerge through interventions and students' productions, reflections on the activities and aspects of the process (CONNELLY, CLANDININ, 1995, p. 44)

From this perspective, both teacher and students will be storytellers and characters not only of the stories of others, but of their own as well. According to these authors, the narrative structures the experience that will be studied, because it is how this will be investigated and how it is displayed (write).

To record the activities of teaching, filming has been a visible technique, as it producing field data for analysis, recording actions and dialogue of all those involved. And from these recordings, performed transcriptions, are made a technique, which consists in taking observations at time intervals, and when necessary to transcribe phrases of the participants in full.

These techniques are used because they are suitable for the research that is proposed - qualitative - and for allowing the recording of speeches and actions of participants and also their storage in digital form.

In addition, field notes are used as part of narratives in class, as a way to add the perceptions that are not clear on the techniques quoted above, perceptions which not possible to be capture, for example the smells, the expressions and impressions (BOGDAN; BIKLEN, 1994).

The daily class in narrative form will allow the teacher-researcher to recognize their professional and provide feedback for improvement (Zabalza, 1994. p. 10). The records prepared using the Methodology of the teacher-researcher will be discussed based on theories about the representation of space and about the interaction of people as a means of knowledge production.

BASIS FOR DATA ANALYSIS

The records prepared by the methodology of the teacher-researcher will be discussed based on the works of developmental psychology and child learning, the theories about children's drawings and the studies of Vygotsky, who understands the interaction of people as a means of producing knowledge.

Thus, it becomes necessary to detail each item that will help the discussion of the records. Drawn upon developmental psychology and learning, this discussion will be charted in the book "A criança em desenvolvimento" (The Developing Child) written by Hellen Bee (2004), among others, because they understand the two ways of understanding the child development: biological and cultural.

Therefore, this form of discussion will understand the development of children, their maturation and still understand the infant universe of certain society through spatial representation.

On the understanding of children's drawing, will be used studies that present theories on children's drawings, such as, the book called "Desenho de Criança" (Children's Drawing) by Children Jacqueline Goodnow (1977) and "A Criança e o seu Desenho: o nascimento da arte e da escrita" (The Child and its design: the birth of art and writing) by Philip Greig (2004).

The reading of L. S. Vygotsky will be very important for the analysis of records of the words of children and perceptions of teacher-researcher in educational activities.

The studies of L. S. Vygotsky showed that the emergence of speech in children leads them to develop a new structural organization of action. He attributes an organizing function to symbolic activity which begins with the speech, producing new forms of behavior. There is a convergence between speech and practical activity (action), that children before control their own behavior, control the environment with the use of speech. (ALMEIDA, 2001, p.20)

FINAL CONSIDERATION

In summary, this work focuses on understanding the child and their spatial representations as the axis of connection between cartography and childhood.

We expect to obtain a rich collection of records and narratives to be analyzed during this study as well as clarify some aspects of the question about the relationship between time-space-body and its representation, mentioned in the beginning.

Therefore, such elements from the universe of child and children's school experience, will contribute to conceive a childhood-relevant cartography.