



O app Google Earth, o ensino de geografia e crianças em processo de alfabetização

The Google Earth app, geography teaching and children in the literacy process

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ABSTRACT

The New Information and Communication Technologies are tools that can help in the day-to-day life, as well as offer support to contribute in the classroom with the objective of instrumentalizing the teaching of geography. This paper presents a report of an experience in the classroom, with children of 06 (six) and 07 (seven) years of age in which the Google Earth application is used to demonstrate how much children in the literacy phase express and use geographic knowledge in a significant and spontaneous way in their daily lives. However, there are criticisms about the risks of romanticizing the use of information and communication technologies. That said, we describe the step-by-step from the arrival at school to the moment of using the application, the frustration of not being able to use it in the first class, the difficulty of necessary access. The children's speeches are transcribed, their reactions while following and viewing the images that the Google Earth application makes available, during the proposed and carried out class. At the end, some images are presented that reveal how the children express their experienced spatialities in drawings. Thus, it is defended the possibility and importance that from elementary school I, including in literacy classes of children of 06 (six) and 07 (seven) years of age, it is conceivable to provide opportunities for the development of activities that corroborate the construction of ideas of knowledge belonging to the teaching of school geography with children who are at the beginning of the process of literacy of their language.

Keywords: Geography Teaching, Literacy, TDIC in the classroom.

INTRODUCTION

This article presents a class held with the interest of emphasizing that the Teaching of Geography can be practiced from the first years of Basic Education in public schools, and even with children who are in the process of literacy. The children are students of class 101, which comprises the first year of schooling of Elementary School I, of Basic Education. There are 20 students aged between 06 (six) and 07 (seven) years old, studying at CIEP (Integrated Center for

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Public Education) 220 Yolanda Borges, which is located in the 2nd (second) District of the Municipality of Duque de Caxias, Figueira neighborhood in the state of Rio de Janeiro.

In the class, the Google Earth application was presented to class 101, with children in the literacy process. The choice of the Google Earth application was conceived as a proposal to meet the following objectives: to analyze, based on the expressions in the speeches during the class and in the children's drawing, the types of relationships and knowledge about the space and place of the children in the class; how they use their observations about the space and place in which they surround, walk and experience between the journey from school to their homes; the perception of distance through distance and near visualization through the scale dimension that the application presents. With the purpose of idealizing knowledge and geographical knowledge of the children of class 101, it is argued that the teaching of a significant Geography in the school environment is important from the first years of schooling in human life. This article aims to argue that in order to invest in the construction of cartographic literacy, in the training of readers of the cartographic space, to interpret the languages of the process and literacies in cartography, it will be necessary to provide opportunities for a teaching of Geography in a meaningful way, based on the place and knowledge coming from these children. This document recognizes that technologies have a role in re-signifying these languages by facilitating the understanding of the representation of the space we live in, the visualization of spaces, images of places in a clearer way, bringing an opportunity for students and children to understand cartographic language with a new format. To instigate and work in the classroom with such skills, we will need to appropriate and understand knowledge and knowledge that belongs to the field of Geography teaching. To substantiate this defense, we seek to welcome the argumentation of the author Canto (2018):

When it comes to teaching and learning Geography, cartography appears as one of the main languages mobilized in this process. Teachers and students of different levels of education recognize in the maps a type of "text" and knowledge that are specific to this school discipline, as they enable them to express and communicate different geographical phenomena, as well as to give meaning to a diversity of concepts and spatial thoughts. As a result, cartography has been thought of for some time as a form of "reading and writing" necessary for learning Geography (p.07).

With the notes, it is expected to detect the knowledge narrated by the children about the space and the place where they interact, how they perceive their spaces where they circulate, their observations about elements present and modified in this context, and thus have the possibility of having these inferences. The hypothesis and relevance is to highlight Geography in



the literacy process by which children are involved in this stage of school life, at this moment, in line with Lopes and Mello (2009), sharing the thought that:

Children's space is, therefore, a geographical space, and thinking about their actions on it must be perceived under these conditions. The sensory-motor experience, the environmental perception, cannot be understood only as a set of maturations and actions by the environment, but rather as culturally constructed plans, in which the mediation process is always present (p. 128).

With activities that are focused on the teaching of Geography to children, we have the possibility of interfering and mediating some knowledge of Geography working among young children with the idea of constructing certain concepts that are properties of school Geography, as it is possible to carry out. In the next part of the text, about the methodology, we describe this class planned and executed in class 101, despite many mishaps encountered when planning and making meaningful classes with our students within the public school.

METHODOLOGY

Prior to the proposed lesson, the teacher talked to the children about the existence, function, and use of the Google Earth application for an entire week. Through a personal tablet, the application was presented to the children. But, the image on the tablet is too small to present to the class in class, so there was a need to resume the task at another time. To carry out the activity, it was necessary to make the school's video room available to use the television, which has a large screen, a necessary requirement for the children to explore an expanded view of the spaces made available by the application.

On another day, after performing the daily routine of arrival, food and accommodation in the classroom, the class was directed by the teacher to go to the video room, which had been previously scheduled, and then perform the planned action, which was to access the Google Earth application. This first initiative did not work because the television did not have access to the application despite the existence of internet access on the television. It was necessary to schedule a new date, where the teacher brought her own resources to complement the necessary instruments. To carry out the activity, it was necessary to use personal equipment such as: notebook, HDMI cable, adapter, cell phone, tablet and internet.

On the new planned date, we did our usual initial routine. With the size of the private laptop, HDMI cable, adapter and cell phone with data package in case the school's internet was not possible to access in the video room, the teacher and the class went to the scheduled space. Finally, there was the occasion when we were able to access the Google Earth application, a



moment that everyone had been waiting for and that was a reason for joy for the children of class 101.

The first view you have when you enter the app is the Earth, seen from above, rotating, with the appearance of active life. By typing in the app's address search, the CIEP 220 Yolanda Borges, the app performs a movement of changing places. The visual movement from the operation of the application brings a feeling as if we were traveling to the address of the CIEP 220, in a 3D perspective. The view that the application presents us is the neighborhood, the streets, the block where the CIEP 220 is located and its surroundings, presenting the place with visibility from above, from above. The children recognized the locality, the CIEP 220, the streets. With this, we present below some of the results and questions, which make up part of the research.

RESULTS AND DISCUSSION

Before presenting some of the results, some clarifications and criticisms are in order. One issue to be clarified is about access to the internet, as this is not a reality for everyone. In public schools where there is internet access, it is rarely available to the student, and not always to teachers. It is directed to the functioning of the school secretariat, of the management team. This is a present reality, the internet is not yet a pedagogical resource in the work of teachers with their students. There are numerous issues that defend this type of practice, but it is reaffirmed that, in order to carry out this type of activity in the classroom, it is necessary to have internet and appropriate equipment available for the use of teachers and students.

In the search for a teaching practice that is meaningful to students, this activity in the class demonstrates that teaching Geography is expensive, expensive, laborious and requires equipment. These questions raise some questions: who is going to sustain this type of practice, this type of class, this type of education?

To substantiate the problem that stands out when it is proposed by the Teaching of Geography based on the use of technologies, the term gambiarra used by the author Tonetto (2022) is mentioned. In this text, it is questioned that the Geography class in a significant way, in order to build the idea of a cartographic literacy, when it comes to the idea of the construction of maps, of recognition of the place, of the present landscapes, that it is intended to work on the idea of geographical concepts, this Geography is being workaround? With the appropriation of the term used by the author Tonetto (2022):



First, we could say that the gambiarra refers us in the most ordinary sense of the word to: geringonça, the provisional thing, the lack, the precariousness, the scarcity, an exception, thus, "in everyday life, the term refers to improvised solutions to problems, in general, precarious and provisional" (SEDLMAYER, 2017, p. 13), but which often become the rule, for "n" reasons, but generally due to lack of resources (p.34).

In view of the precariousness of material conditions for this, the lack that exists and for teachers to make interesting and meaningful classes, it is necessary to use their own equipment and resources!

That said, going back to the activity carried out, the Google Earth application developed a clear image of the space it was addressing during this lesson. Remembering that not all spaces are accessible, usually within communities there is no accessibility to all existing places and the app responds that there is no accessible view, so not all geographic spaces the app will be able to provide the view of places. Perhaps due to the local territorial control of factions and militias, lack of internet instability, among other reasons.

All the children were impressed when they looked at the Earth, the planet we live on, through the app. They easily identified the Earth, their words were: "Teacher is the Earth!"; "The Earth is our planet."; "What's that, the colors, blue, green?"; "It is the water that is the blue and the earth is the green." Finally, they asked to see Africa! And by typing Africa in the app's address box, the movement of switching from one place to another led to the visualization of the representation of the African continent seen from above. From there, the suggestion was to observe Brazil. And again, the app's movements lead to the feeling of switching from place to place. The students followed along and then said: "Auntie, I want to see the school!". While the children were viewing the images, there was the explanation that the application is built with images, such as photos, of the places that come together and create the images that we are viewing, that they are not live cameras, that they do not show in real time the places that we are seeing, because children usually think that the images are made in real time.

It was explained that the view we have at the moment through the app is from top to bottom, that the gray lines are the streets, that we are visualizing the roofs of houses and other buildings, and the CIEP 220. Also, it was said that, when we have a view from the top down, it is as if we were at the top looking at the CIEP building down there, and so we have the view of the roof of the building of the CIEP 220 rooms, the ceiling of the court and the ceiling of the library, the backyard of CIEP 220, with trees, lawn, the fence, the gate of CIEP 220 and the sidewalk through which we entered and walked from the gate to the school building. With regard to the school, what was most highlighted by the children was the entrance to the school, the path and the sidewalk where the children walk when entering and leaving CIEP 220.



The children of class 101 observed the dynamics that the app offers by moving the view from top to bottom to view through the center of the street towards the front of the gate of CIEP 220. The children were amazed by this spatial movement. At that moment, student KY (06 years old) pointed out where her mother is who has a candy trailer on the sidewalk in front of the school street. It is observed that the sidewalk and wall of the building in front of the school have a different color from the current time, confirming to the children that the viewing of the images are not live, they are not footage of the time now.

Another student said that she lives near the school and asked if she could take the route she takes from school to her home through the app. Student KA (06 years old) was saying: "go forward, turn there (and indicated with her hand if she turned right or left). When following the orientations of the student of class 101, KA, the girl observed that in the path of the images of the app there is a bar that at the real moment no longer exists, currently there is another type of commerce, a store according to the student. Meanwhile, the other children were speaking out, recognizing the street, the buildings, saying that their houses would be close to the path that KA indicated. Some of the other children's statements: "if you go this way here, it's the street of my house"; "My house is in this alley"; "in this alley is SO's house". Until the moment when the app reconfigured the image and started to visualize the neighborhood of Figueira (where CIEP 220 is located) seen from above, from top to bottom, the streets, green hills without buildings, roofs of houses and other constructions distributed throughout the blocks.

Here, the execution of the application was terminated, as it was realized that the main objectives and purposes had been achieved by presenting the Google Earth application to the children of class 101. It was agreed to resume the activity with the app again, on another day, because the children liked it and asked to see more places. With this experience, the statement of the author Lopes e Mello (2009) stands out again:

(...) children live their space in its geographical fullness, they are present in the landscapes, leaving their marks, and they build/destroy their forms, they establish places and territories, they live their affections, their desires, powers, authorships and heteronomy. They invent them, they de-architect and de-architect them, they accept them, they deny them, whether in the field of perception or representation (p. 128-129).

Within this context, the activity carried out uncovered the thoughts and geographical forms that the children of class 101 relate to, memorize, direct, move through their spaces within the school, on the street, through the place where they live. On their return to the classroom, the children were asked to express their own map with the way from home to school. The children dialogued in their drawings, each in their own way, photos were taken from their drawings,



which are kept in archives. From this activity, the children reinforced the ongoing master's research at PROFGEO and have provoked the emergence of other ideas for this research that is in the process of development. This work is being elaborated in the perspective of highlighting how much the children have of geographical knowledge experienced in their daily lives, in relation to the route they make from home to school, and the places they surround, in the forms of readings they performed on maps of the app that was presented to them, how they recognize their lived spaces and locate themselves on the 3D map that represent these spaces through which they circulate. Finally, children of 06 (six) and 07 (seven) years of age of class 101, who do not yet have the mastery of reading and writing the alphabetic code, who are in the phase of literacy of the mother tongue, they are able to locate themselves, indicate paths, point out and recognize the place and the elements existing in the paths, identify the elements that have been modified in the space of the paths that they circulate on a daily basis. In this context, we would be forwarding ways of thinking and conceptual ideas of the Teaching of Geography regarding place, landscape, territory, scale, among others.

As pointed out by the author Lopes (2013), this article argues that children develop from significant experiences:

Thus, initially, the child can only perceive space through his own body in contact with objects, using the senses. At first, her space is one of experience: it is made up of the places where she plays, walks and the objects that exist there and that she uses. Spatial relations develop and become more complex as it expands its space of action (p.287).

Massey (2008) mentions space as the sphere of multiplicity. And so the children, in their speeches, in their drawings, while expressing their spatialities, their place in the world, show us their ways of understanding, creating and re-signifying the space through which they move on their way from home to school. Some drawings/records through which the children express themselves through the immeasurable children's geographical universe of class 101 can be observed in figures 1, 2, 3 and 4.

Figure 3 - Source: Author's photograph (2023)



Figure 4 - Source: Author's photograph (2023)





This experience was very important, because it reaffirms that yes, there is geographical knowledge in the children's universe, in this case, students attending the literacy phase at six and seven years of age. These children, who have not yet mastered the socially established alphabetic code for reading and writing our language, change the letters of the position of their name because they have not yet appropriated the spelling of the letters of the name and the alphabet, because they have not yet memorized the position of the letters, they are not yet full as readers and writers of the language. But they demonstrated that they are able to know and indicate the path they take, identify the elements present in their space where they circulate and the elements modified in them, recognize their place where they live, live, study in different angles and scales presented by the app in the room during this class

In this research with children, there are many questions that elucidate and motivate its continuity. The proposal has been about writing how the teaching of Geography in basic school is related from elementary school, emphasizing the literacy phase of children, in a perspective of teaching Geography that is significant, so that it is understood and recognized in everyday life. And how can the school recognize these properties of Geography in children's thinking? How can the school work on this geographical knowledge? How can teachers work on these skills, these ways of seeing, feeling, perceiving the world geographically by children? How to identify attributes of children's thinking when it comes to the Teaching of Geography, a Geography as a practice of life, a present of daily life, which uses geographical knowledge?

The children use this knowledge of Geography demonstrated in the activity in a very spontaneous, natural way, without having a teacher teaching the content previously so that they can locate themselves, identify their place, their path, in short, perceive themselves geographically in their lives. And how can the school identify and value this knowledge and knowledge focused on Geography in order to explore this knowledge of which children continuously reconfigure? These are some of the questions that interest this research.

FINAL THOUGHTS

This article highlights the importance of invoking the possibilities of talking about the Teaching of Geography, the need we have to work with a meaningful Geography in schools, and the difficulties to access technologies as resources that help in the Teaching of School Geography. It is observed that technologies, platforms and educational applications are present in society, everyone has access to them, our students are using such technologies in some way. We,



Geography teachers, are inserted in this context and our function will continue to be to work on criticism within what is possible for us in the spaces that allow us.

Another problem that involves the teaching of Geography is that in order to work the Google Earth application with the students, with the activity that was described, it was necessary to complement it with the equipment and resources necessary to carry out the class. In order to present and find the proposed objective, to find in the children's speech the knowledge that they bring, which is natural to them because they experience every day, the relationship with the spatiality that children have with the world, it was necessary to use their own resources in this reported experience, but this is not the desired educational practice.

It was found that the reading and appropriation of knowledge related to mapping, cartography, location, how the children move and locate themselves in the space they circulate, from their place, observing, recognizing and describing the place in which they are inserted, are latent particularities in the children of class 101. This rediscovery, which is not something new to talk about, on the contrary, it is a present discourse, it is an approach used to claim and defend the Teaching of Geography even with these children who are still in the literacy phase because within their universe there is pertinent knowledge of Geography that they know, that they know and use.

And finally, and there is the question of the use of technologies. For the teacher of the class, 101 everything is new, because she herself does not know their place, she is not a resident of the region where the school is located, because she lives in another city, their place is a learning space for the teacher of this research class. Accessing Google Earth required the class teacher to find her own means to have equipment that the school did not have. In order to have this type of class, which is meaningful and enjoyable, a class of discoveries, working and valuing the children's baggage of knowledge, we will need those who will offer and ensure that we have the necessary access in public schools. The teacher needs to have a space in the school, a room to take the student and there demonstrate in the school equipment, the application and develop with the students, the skills that are fields of knowledge of Geography with all the equipment belonging to the public school.

The teaching of Geography involves many issues and the teacher cannot take on all the commitments alone, the teacher is an integral part of education who works, takes on many functions, makes available and shares ideas, but the teacher cannot solve all the problems alone in the classroom with his students.



Geography teacher defends the existence and permanence of Geography, fights for the renewal of teaching and learning Geography, says that Geography is necessary and valuable as a science for life. We boldly have to want the presence of a Meaningful Geography in the classrooms of our children, in the hope that our geographical science is being permanently re-signified in our schools by the Brazilian public education networks.



REFERENCE

- CANTO, T. S. (2018). Os mapas e as tecnologias digitais: novos letramentos em pauta no ensino de Geografia. *Perspectiva*, 36(4), (p.1186–1197). <https://doi.org/10.5007/2175-795X.2018v36n4p1186>
- LOPES, J. J. (2009). O ser e estar no mundo: a criança e sua experiência espacial. In MELLO, M. B. (Orgs.). *O JEITO QUE NÓS CRIANÇAS PENSAMOS SOBRE CERTAS COISAS: dialogando com lógicas infantis*. (pp.119-132). Rovelte.
- LOPES, J. J. M. (2013). Geografia da Infância: contribuições aos estudos das crianças e suas infâncias. *Revista de Educação Pública* [S. l.], v. 22, n. 49/1, (p.283–294). DOI:10.29286/rep.v22i49/1.915. <https://periodicoscientificos.ufmt.br/ojs/index.php/educacaopublica/article/view/915>.
- MASSEY, D. (2008). *Pelo Espaço: uma nova política da espacialidade*. (3. ed. H. P. Maciel; R. Haesbaert) Bertrand Brasil.
- TONETTO, É. P. (2022). Tecnologia é gambiarra. In: Giordani, A.; Filho, A. C. Q.; Oliveira, A. G. & Tonetto, É. P. *Linguagens do desaprender: gestos intensivos e política dos afetos*. (pp.31-49). Evangraf. URL: <http://hdl.handle.net/10183/254805>