

# PRODUCTION OF MUNICIPAL SCHOOL ATLASES IN THE STATE OF SÃO PAULO, BRAZIL

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## Abstract

The curriculum created in Brazil in the 1990s for the early years of primary school focuses on studies of regional Geography. The theoretical categories for these studies are Location, Landscape, Territory and Region. The Geography curriculum deals with *suburbs, cities* and their surrounding areas in the four years of primary school. These themes call for the production of local materials for school use, which was not a common requirement prior to the advent of the new curriculum. One of the reasons for this requirement is the increase in human migration that has marked the last three decades and which has caused feelings of displacement in terms of belonging to a local culture and finding an identity within it. In response to a request by teachers to create an atlas of the region, we coordinated two local atlas projects, the first one from 1996 to 2000 and the other from 2006 to 2007. The **overall purpose** was to create an atlas that promotes identity and a feeling of belonging through greater knowledge of the region. The projects' **objectives** were: a) to define themes for the Atlas starting with the issues presented by the schools; b) to conduct research for a sociocultural diagnosis of the school population; c) to define a thematic axis based on the results of the research and on the Curricular Parameters and adapted to school practices. The **Methodology** begins by considering that local school atlases are cartographic products that are very different in nature to other types of atlases: a) their users are teachers and students whose needs and objectives differ from those of cartographers or geographers; b) they should be appropriate to the school curriculum, and should be organized according to a sequence of concepts and abilities that will be acquired by the students over several years; c) they contain topics relating to the daily experiences of the users of the locale; d) the similarity between the information contained in the atlas and the knowledge of the local users concerning the locale makes the atlas more accessible, enabling them to easily identify errors it may contain. This also makes it easier for the users to make criticisms about the atlas. Therefore, the production of local school atlases requires extensive research to avoid such problems. In School Cartography, we consider school learning a tool that enables us to see and express the world in which we live. Thus, **School Cartography Research** within the context of teacher education and the production of curricula can be conducted in two ways: 1) By adapting theoretical and technical knowledge about cartography to primary and secondary school contexts, thereby establishing a clear difference between university and school knowledge. 2) By examining teaching practices to assess the extent to which they expose learners to new knowledge, rather than simply reproducing knowledge originating from a university

curriculum. This implies the need to consider *different social backgrounds* as a reference when carrying out atlas activities in schools. The social background plays an important role adapted to students' needs. Therefore, school learning is a *social construction*, and not an isolated process. The school's role is to impart certain values and knowledge to students. *Collaborative action-research* between the university and the local department of education was the methodology we applied here (Clandinin & Connelly, 2000). This concept underpinned the two aforementioned projects, whose **results** were used to propose a *methodology for the production of local atlases for children*. To this end, we came up with the fundamental points of our methodology, which are as follows: 1) Conduct a thorough research of the students' background and the culture and values associated with their community in order to identify the elements that make up the **local culture**. 2) Choose a thematic axis (research themes) (thematic pillars) around which the contents of the atlas should be organized / put together. The central axis (main theme) discusses identity and belonging. 3) Develop atlases that are appropriate for each teaching level. We therefore constructed a two-level atlas: Level 1 – For 6 to 8-year-old schoolchildren: students who are learning to read and to write should have an atlas composed of drawings and images they can understand easily. This atlas should take into account the way children in this age group see time and space, which is done nonsequentially and considers their interests and the things they are curious about. We made a study of what we call “area of influence” in each school, using the students' addresses to locate the neighborhoods where they live. The school is located in the center of those neighborhoods, so it served as the starting point for the maps. According to this methodology, the schoolchild begins with a map of the area where his/her school is located. Therefore, the atlas does not have to follow a sequence. It depicts neighborhoods (suburbs) and places that are close to this area through pictures, drawings and maps. Level 2 – for 9 to 12-year-old schoolchildren: the contents of this level are based on the following thematic axis: Identity and Belonging, City and Nature, State and Citizenship, Work and Consumption.

## **Introduction**

The curriculum created in Brazil in the 1990s for the early years of primary school focuses on studies of regional Geography. The theoretical categories for these studies are Location, Landscape, Territory and Region. The Geography curriculum deals with *suburbs*, *cities* and their surrounding areas in the four years of primary school. These themes call for the production of local materials for school use, which was not a common requirement prior to the advent of the new curriculum. One of the reasons for this requirement is the increase in human migration that has marked the last three decades and which has caused feelings of displacement in terms of belonging to a local culture and finding an identity within it.

We live in a world that is permeated with social inequality, particularly in those countries which are economically marginalized. Currently the processes of technological globalization are leading to a major re-structuring of the industrial world. The advance of new technology, which justifies employment policies based on the flexibility of the labor market, is resulting in an increasing level of unemployment.

In Brazil, particularly in the southeastern region of the country, this process is causing people to migrate on a permanent basis from one city to the other in the search of employment and improved living conditions. A consequence of this human migration is an increase of suburban violence. The city is now home to a group of people, which due to being displaced frequently, have been “uprooted” from their social and cultural space – a place in which they live temporarily, therefore they have no reference point in terms of memories, political affiliation, and sense of belonging, which would foster a set of values for a tolerant suburban coexistence.

It is undeniable that education plays an important role in attempting to create a fairer and more united society, however this demands well structured action plans in the form of projects that begin with necessities and specific contexts. This is where local atlases are able to reach students at primary schools, and through the students reach families, and beyond that, the community in general. The starting point is training the teachers, as they will be the main agents in teaching the material in schools. The teachers form part of the local community and at the same time form opinions within that community.

Nevertheless, the complexity of the issues involved demands a grasp of both a conceptual and procedural methodology, which will lead to a change of values. The development of educational attitudes presupposes that there will be different views regarding ethics, citizenship, inclusion, and as such the educator will develop his or her own critical view and choose his or her own set of values.

This means that the educational program should establish rules for harmonious coexistence in the school environment and development of projects of intervention both within and outside the school environment, which promote a change of values. Therefore, the training program should provide access to specific information (records, history) about the city, its geography, its origin and historical formation, environmental circumstances and social issues, so that the teacher can proceed with the teaching activities.

The deterioration of the environment is another problem that can be dealt with through a program that allows for the production of local atlases and training of teaching staff. Environmental issues can be focussed on by highlighting the problems encountered in the neighbourhoods where the schools are located, then making it possible for the school community to discuss them and come up with solutions. Thus it is important to consider urban environmental problems such as flooding, settling of lowlands (river flats), basic sanitation (treatment of water), collection and disposal of waste, urban forestation, green areas, parks and gardens, among others.

The materials that have been produced and the action taken can assist in creating a sense of belonging to a local culture and finding an identity within it. In the school situation it will be possible to offer educational activities and experiences and to reflect on the causes and values that shape behaviours and treat them as social acquisitions, which can change over time.

## **Production of the school atlas**

In response to a request by teachers to create an atlas of the region, we coordinated two local atlas projects, the first one from 1996 to 2000 and the other from 2006 to 2007. The **overall purpose** was to create an atlas that promotes identity and a feeling of belonging through greater knowledge of the region.

The projects' **objectives** were: a) to define themes for the Atlas starting with the issues presented by the schools; b) to conduct research for a sociocultural diagnosis of the school population; c) to define a thematic axis based on the results of the research and on the Curricular Parameters and adapted to school practices.

The **Methodology** begins by considering that local school atlases are cartographic products that are very different in nature to other types of atlases: a) their users are teachers and students whose needs and objectives differ from those of cartographers or geographers; b) they should be appropriate to the school curriculum, and should be organized according to a sequence of concepts and abilities that will be acquired by the students over several years; c) they contain topics relating to the daily experiences of the users of the locale; d) the similarity between the information contained in the atlas and the knowledge of the local users concerning the locale makes the atlas more accessible, enabling them to easily identify errors it may contain. This also makes it easier for the users to make criticisms about the atlas. Therefore, the production of local school atlases requires extensive research to avoid such problems. In School Cartography, we consider school learning a tool that enables us to see and express the world in which we live.

Thus, **School Cartography Research** within the context of teacher education and the production of curricula can be conducted in two ways: 1) By adapting theoretical and technical knowledge about cartography to primary and secondary school contexts, thereby establishing a clear difference between university and school knowledge. 2) By examining teaching practices to assess the extent to which they expose learners to new knowledge, rather than simply reproducing knowledge originating from a university curriculum. This implies the need to consider *different social backgrounds* as a reference when carrying out atlas activities in schools. The social background plays an important role adapted to students' needs.

Therefore, school learning is a *social construction*, and not an isolated process. The school's role is to impart certain values and knowledge to students. *Collaborative action-research* between the university and the local department of education was the methodology we applied here (Clandinin & Connelly, 2000). This concept underpinned the two aforementioned projects, whose **results** were used to propose a *methodology for the production of local atlases for children*. To this end, we came up with the fundamental points of our methodology, which are as follows: 1) Conduct a thorough research of the students' background and the culture and values associated with their community in order to identify the elements that make up the **local culture**. 2) Choose a thematic axis (research themes) (thematic pillars) around which the contents of the atlas should be organized. The central axis (main theme) discusses identity and belonging. 3) Develop atlases that are appropriate for each teaching level.

In the next part of the paper some comments will be made about the creation of a school atlas for Sumaré, a town in the metropolitan region of Campinas (State of São Paulo). At the beginning of the project we discovered an absence of reliable information regarding the students' cultural background. This is vital information in terms of understanding the local context of the schools. To this end we designed a diagnostic survey with the purpose of putting together a profile of the student's cultural background.

At each school 10% of the student population was interviewed, the students' names were drawn ensuring that there was an equal distribution of males and females from different age groups, year levels (grades), residential areas. The data was collected from registration records kept by the secretaries at the schools, from parent surveys and from individual interviews with the students selected. Information was collected on the following: family background (origin, length of residence in the city, profession, parent's level of education), relationship of the student with the area he/she resides in (route taken to school, places frequented, places he/she knows, and what he/she knows about the community and its importance); cultural background (leisure activities, sport, religion, attendance at parties, jokes and games and type of music the student prefers).

The results of this research challenged some controversial ideas (perceptions) about the community and these students, who were initially seen as the troubled children of migrant families that had no value framework and were living in precarious conditions. In fact it was discovered that the majority of the students live with their parents and siblings; most of the parents work as salespeople, independent contractors, industry workers in the area of maintenance and repair; most of the students' mothers work at home or are cleaning contractors; most parents have a basic level of education (some had a primary school education, others didn't); the majority of the students were born in Sumaré or Campinas and the students' families have resided in Sumaré for more than 5 years (students that attend the central schools have resided there for more than 10 years).

Another confirmation of this diagnosis was the student's poor knowledge (and some teachers as well) of the city, as the majority of them, actually lived elsewhere and not in Sumaré, which is simply the name given to the centre of the city. This is very common among students with a primary school education.

Nevertheless, students in the lower grades already know a lot about the places, people, what they do, where they live, where they work... Given that these students are still learning how to write and have no experience with maps, diagrams and tables, one cannot expect them to have the skills to use an atlas (and the language associated with it), which they have no knowledge of nor to be able to talk about a sense of belonging. However, we can say that they are able to create "maps" of places that they are familiar with and frequent, even imaginary places. They require an atlas that is adapted to their cultural universe (background).

A general consensus emerged between the teachers after the diagnostic research regarding the influence of school on the students' daily activities had been carried out.

A considerable portion of the students only knew the places they had visited on school excursions. Parties that had taken place at school were cited among those that the students most often frequented. The school as a central focus for the students' experiences led the teachers to believe that the focus (starting point) for the atlas should be the school.

As the atlas was designated for the lower grades (forms) at primary schools, and, therefore had to be appropriate for each teaching level, we decided to create two atlases, one for grades one and two and the other for grades three and four.

The two atlases feature cuttings of Sumaré in chosen segments of time and space with the purpose of enabling the children to see via means of different “windows”, images which might be meaningful to them, which might evoke memories and motivate them to converse about their day to day experiences. A definition of this type of openness is based on the understanding that *territoriality* is linked to the daily life of the students.

The first atlas was created for students who were still learning to read and write. Therefore the atlas was constructed on elements taken from the juvenile universe such as drawings and images. This atlas takes into account the way children in this age group see time and space, which is done nonsequentially and considers their interests and the things they are curious about.

In order to be able to organize the space-time concept of the first atlas we conducted a study, which we called the “area of influence” of each school, allowing us to determine the neighbourhoods the school population came from. The composition of “*My first atlas of Sumaré*” is an arrangement of spatial cuttings, which came from dividing up the urban area and linked to the time taken to construct the city. The *school*, however is always the central focal point in each of the neighbourhoods looked at in this atlas, for this reason the first page to be studied is the one depicting the school. Figures 1 and 2 below illustrate this:



Figure 1. The first page of the atlas is an invitation for the reader to get to know the city. (Extract from *Meu Primeiro Atlas de Sumaré*. 2008: 7).

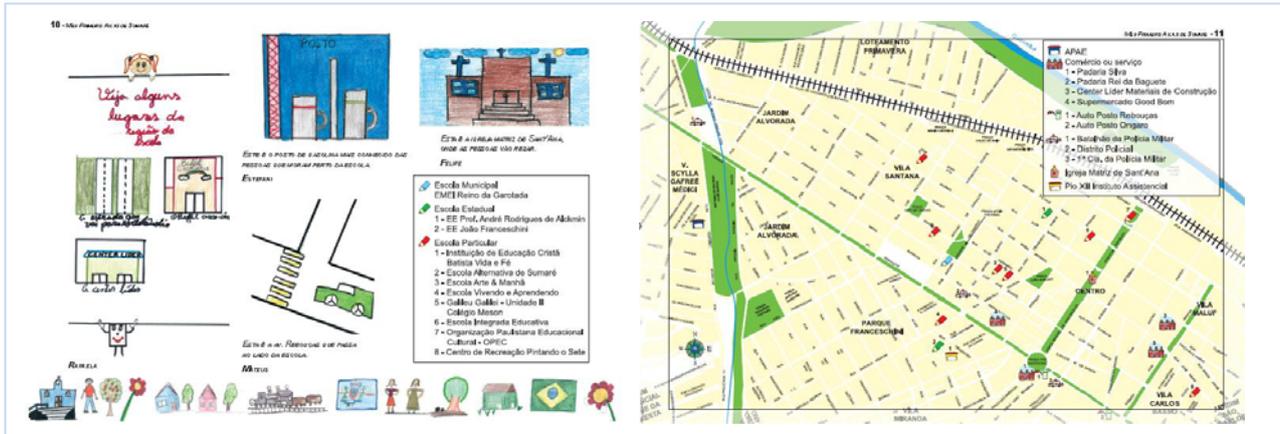


Figure 2 – Illustrations of the school. (Extract from *Meu Primeiro Atlas de Sumaré*, 2008: 10 - 11).

“My first Atlas of Sumaré” is laid out in the following way:

- *The place of the school* is the central point on each map.
- It presents neighbourhoods and places on pages which are linked to others containing photos and drawings along with local maps.
- The sequence of the maps begins from the central region and follows the usual convention - north and west to south and east.
- Rather than a summary (text), various characters invite the reader to learn more about the city.
- The maps begin at the school and are set out on sequential pages with the captions written by the students - the choice of what should be included and their key being completed under their teachers’ guidance.
- The character “Teacher Chico” (in memory of Francisco Antonio de Toledo) tells a little of the city’s history. (See figure 3).



Figure 3 – The teacher Mr Chico tells a story... (Extracted from *Meu Primeiro Atlas de Sumaré*. 2008: 36).

The atlases present the territory in drawings created by the students who participated in the teaching activities throughout the project, in such a way that one child’s “way of looking at something” might appeal to (be understood by) others who use the atlas in the future.

Drawing on these considerations and studies of Culture and Curriculum, we included the following subtopics, which defined the set-out of the atlas: *city and nature, state and citizenship, identity and belonging, work and consumption*. These subtopics provided clear direction when articulating the teaching activities. As a matter of fact, they are branches off the main axis – *cultural identity*.

The atlas created for grade three and four students, is called the “School Atlas of Sumaré” and is thematically presented according to these axes, which were defined initially with a research focus on the cultural background of the students.

The *School Atlas of Sumaré* begins with thematic axes and relates time and space to the use of territory together with its cartographic communication. For example, the first settlement occurred in the Quilombo River valley, which was home to an important water course for the first colonists. Today, it is polluted and surrounded by buildings, nevertheless there are still remnants of forest along its banks. This riverine area was presented on a map which shows the source of the river to be located in Campinas and its mouth in the Atibaia River and an oblique photo shows where recently constructed housing estates are. (Figure 4). This allows us to understand how the city expanded into the Quilombo Valley, affecting the quality of its water.



Figure 4 – The Ribeirão Quilombo region. (Extracted from *Atlas Escolar de Sumaré*. 2008: 20).

In this atlas elements such as simple diagrams, timelines and maps appropriate for students of 9 to 10 years of age were used. A certain level of care was necessary when setting these elements out on the page to ensure that the association between them was clear and that they would provide the students with supplementary reading allowing them to gain a more in-depth comprehension of the topic. The charts (graphs) provide a clear visual presentation of numbers/ quantities making it unnecessary for the student to carry out calculations immediately; rather it is simply enough to look at them. For example, the graphs showing rural and urban population distribution in three different years show the figures in red for those who live in the city and in green for those who live in rural areas (Figure 5).

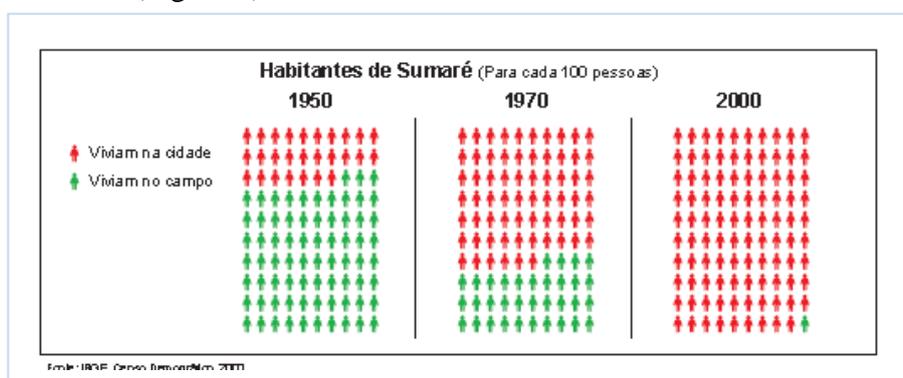


Figure 5 – Rural and Urban population (Extract from *Atlas Escolar de Sumaré*. 2008: 38).

Under the subtopic *city and nature* the atlas looks at the sub-themes of archaeological sites, the settlement of the territory by the first colonists and the establishment of the first village. The subtopic *state and citizenship* looks at the expansion of the village the formation of the city and the process of industrialization, which occurred after the 1960s. *Identity and belonging* are about the themes that currently characterize the city, its regional divisions and neighbourhoods. On the *work and consumption* axis the subtopics of production and social conditions of health and education are presented.

## Conclusion

The use of the municipal atlas may allow school activities to enrich different cultures, the most diverse life stories or experiences and the widely varying types of work. The atlases may serve to highlight and lead to discussion about the community and the relationships of the people and the social groups within it. Therefore, the creation of a local school atlas demands a good knowledge of the place, its transformation in time and space, and that it generate an idea from this knowledge, which will serve as the central argument in the architectonic organization of this material. The visualization given to the atlas also forms part of this central idea. However, we admit that an atlas is one way and not the only way to present a place, a city.

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