"School Atlas: Way to Map"

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The aim of this research work is to present a series of ideas corresponding a research project intended to interpret the map more easily.
To achieve this purpose, the initial work is directed to the child of primary school. Taking into accourt the kind of thought a child has during this evolutional stage, the need to use concrete material as a learning resource arises, thus, the "School Atlas: Way to the map" Project arises. Its aim is to elaborate didactic resources that allow the pupil to interpret the map by evaluating his environment.
The proposal is that the child develops tridimentionally, his activities according his own concept of reality so gradually passes to the bidimension in which the charts or map are drawn. This stage will be full filled as the third cycle of the primary school.
In order to make the finnal result valid and appropiate, the methodology used requires the psychopedagogical and teaching advice. In this way, resource proposals are determined, tested and evaluated.

The research group is integrated by professionals in the fields of Geography. Cartography and Plastic Arts under the directori of a Surveying Engineer. all forming an interdisciplinary working group.

Each member also works as teacher in different levels: primary. secondary and universitary. And. it is from this teaching activity that we noticed that even for the universitary student it is difficulty to read and interpret the map; it is not seen as the instruments to aprehend the space. For this reason. all the efforts were directed to make the use of the map something usual since it is thought.as a universal language way transmitting spatial information. It is an indispensable resource of planning and optimiging the territorial space usage.

Traditional carthography is not so effective to be appical to the second cycle of primary level. To read a map between the nine and ten years of age. a child needs to have previous activities of object representation. Thus. the research group designed and built methodological elements which try to show the child environmental features and facilitate the knowledge of his geographie reality through the process of systematic education. A child requires the notion of time and space through an evolutionary process in which the interaction between the subject and his environment intervenes. In first place. an space that is in direct contact with the child. Then. an space perceived through his senses incorporating the motions of distance. And. finally. the concept of a remote space. employing a higher level of abstraction- where it is necessary to implement a methodology to develop the task which allows one to build solid and adequate resources at the end of the work.

The elaboration process of the "School Atlas" Project requires the advise of psycopedagogists and teachers. In this way. preliminary activity proposals subject to test and evaluation are defined. It is carried out with pupils of the educational community. thus obtaining the results that allow us to correct mistakes or to determine the acceptance of such methologhy.

By creating different spatial contours and their representation. the child was guided to learn the elements he will their find on the map. To do this. various activities already proposed in the school programme of the primary level and considered. In this manner. the method allowing a child to read a map can be included in shuch programme. It does no mean that the teacher shoul enlarge on the school programme.

An important theme needed to make the future map is. **ORIENTATION.** For this model representing each pupil's house is built in which a mobile strip of paper with a sun indication position is included. It allows the child to orientate himself in the space by determining the East. Each child will locate the sun according to his own reality. From it. he will find out the **CARDINAL POINTS**. Then. he has extend his arms looking to the North: the right hand will point to the East. the left hand to the West. and in consequence. his back will point to the South. This activity is helped with illustrations showing the location of an urban school with a preestablished orientation.

The child will finish the drawing relating the street names with the cardinal points. Then. they work with a rural school likewive. Later. through exercise. they will have to locate their school considering the cardinal points.

Another usual space is his classroom. He shares it with his schoolmates establishing loving and spatial relationships. The simplicity of the classroom allows children to carry out activities with which they begin to handle the different carthographic aspects.

The starting point may be the building of a model of the classroom. Taking a specific module a a **SCALE,** the walls are built. The writing desk are made folding cardboard strips and painting medicine boxes. we obtain desks and bookcases. Marking with a pen around the wall base of the schoolroom. will be obtain a representation of it. in the plane. The same procedure is used to get the projection of desks and writing desks. Besides. he can creates a symbol representing it. this including the concept of **Symbology**.

In the schoolroom, children can practise the concepts of ORIENTATION CARDINAL POINTS, BOUNDARIES etc. so through symbology they can exercise thematic carthography.

These little cubes will be used to exercise the cardinates on a map: Adrian is placed in the intersection of column 5 and row D: the teacher asks Patricia to take the 3-C position and so on. One way to evaluate this activity is that, each child has to make a representation of his bedroom and exchange it with his schoolmakes. The skills acquired by them could be transfered to a representation of the province. In the case, the scale is not as important as the elements location where the child observes the details of the area he usually moves. At the end of this activity, he have acquired the basic concepts of projection and symbology with which he can establish relationships between concrets and abstract figures.

SAND TABLE: It is used to detect the child's creativity-in modelling the different shapes of the land- the teacher leads the pupil to recognise the relief configuration with the help of graphic representations about hydrographic and orographic forms. Using recycled material, he can prove how important is man intervention to avoid water leakage by filtering, its retention in a done and its controlled distribution.

Another working method is the creation of relief maps or a tridimensional plastic model based in the altimetry chart of the socio-economic Atlas of San Juan Province. The shapes and heights of the terrain were made of cardboard representing both, height variation and an assamblege game. The color of each layer relates to the different heights wood cilyndrical axes allow a proper adjustment and mobility. Their technique facilitates the creation from the plane of high zones, thus incorporating the concept of "altimetry".

Then, based on a digital terrain model and a satellite mosaic the step effect was changed into shapes similar to the real ones by using clay. Then, through a moulding process, the plastic model of the province was obtained. Finally, the model is coloured imitating reality. In this way, it is possible to observe the contrast among the mountains valleys and the lowlands as will as the areas that are apt to be inhabited.

In the same manner, the water structure system is clearly understood, outstanding its exiguous availability and the need to limit its use. Therefore, the marked aridity of his environment and the important of water as a resource to life preservation is deduced.

This model is very useful sinces a variety of themes such as, Geomorphology, Sismic Risk, Political Division etc. can be represented on it.

The child will work with blank and transparent models in which he could determine the place he lives in and relate it to his environment.

The advantages of the model are: low cost,easy transport and that is rensable.

If, after performing the proposed activities, the pupil is able to recognice the carthographic elements and the geographic features of his environment, the next step is that he make a plane representation of his Province using his own symbols and based on tridimentional model of San Juan he has been working with.

The research paper also includes two chapters supporting the current school programme. One consists of a carthographic appendix and, the other has develops school programme subjets.

Taking into accourd the changes introduced in the programmes of primary school by the new Edutation Law. The different didactic proposals of this research work should be adapted to the basic contents proposed in the Basic General Education which will comprise from 1th to 9th, course.