

## Cartography: An interdisciplinary tool for Teaching and Learning the world:

### The case of the children of 9 years old

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Geography as well as geography education requires familiarization with using and approaching space with maps, in a manner similar to language education which requires the familiarization with the use of writing. From a dialectical point of view this negates into the important question: how can the schoolteachers exploit the advantages of mapping in order to strengthen the geographic thought of their students. The answer is simple, a map, although an absolutely metric tool of space, produces an abstract "reality", via simple processes and actions. In this way the understanding of reading a map helps the student to analyze the complexity of geographic space and to devise ways that clarify its processes. As a result, it is important to show, that mapping and map teaching is an appropriate cognitive tool in teaching geography.

It should also be noted that space (the world around us) is first and foremost a systemic science, as opposed to the geographic thought which is a intellectual process supported by one or more "images" of space. In order therefore to approach and analyze space there is a need for tools to describe and represent it. The map is such an instrument, which however, as an absolute metric spatial tool, based on "syntactic" rules, illustrates space in a abstract form. As a result a map in apprehending space requires two different but simultaneous approaches: The first approach is concern with the map as a cognitive object and the second one, the map as an object of spatial knowledge. In the first approach, the map operates as the intersect between cognitive and real space and in the second, as an object of spatial knowledge.

In order to help Geography in moving forward, a methodological framework needs to be constructed to show how spatial thought is transmitted. More specifically a framework is necessary to understand and codify this intermediary tool, the map, in order to proceed in the examination of a stepwise approach through the cognitive, constructive and didactic processes which lead to the basic components of Geography.

Analytically, these processes take place along three axes representing: The **Euclidean space** which via spatial rationalization provides topographic maps, which through the cognitive process of knowing, lead to the teaching of geographic skills, one of the three basic geographic components. In a similar manner the "**invisible**"

**space** through spatial analysis, thematic maps, and the process of understanding lead to the teaching of Geography subject matter. Finally, the **structured space**, through organization, mathematical maps and the process of applying, lead to the geographic perspectives.

In conclusion, although the map does not constitute an innovation, nevertheless if approached as a cognitive object as well as an object of spatial knowledge it represents a viable and an optimum methodology in the teaching and learning space.