SPECIAL NEEDS CARTOGRAPHY FOR CHILDREN AND TEACHERS: AN EVALUATION OF MULTICULTURAL EXPERIENCES IN BRAZIL

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The paper main goal is to call attention to the relevance of a special needs cartography directed to children and their teachers. In previous work, the author presented results of ten years of research on geography teaching and tactile mapping for visually impaired people. A tactual graphic language was proposed and tested to introduce maps and basic geographical concepts (e.g. plan view, scale, distance, location and orientation) to low vision and blind kids. The study concentrated attention on two areas: tactile graphic design and production - analysis, construction and tests of various techniques and cartographic products; tactile graphics use - evaluation of the communication process with the visually impaired students in mind, and the development of training programs for teachers. An extensive bibliography was organised and it was defined a set of guidelines directed to map design; production and use. The paper stresses the potential of the tactual graphic language in school, work and everyday life because it has the power to connect the visually impaired to the audio visual, even virtual world of images; it also promotes integration with independence, and facilitates communication in general.

Special needs cartography is, however, more than maps for the visually or physically impaired user. It can and it should be extended to all population groups which need special maps or those who have to deal with different issues related to map production and use. This is the case of indigenous population, particularly native people. They use cartography in different ways, for different reasons. Maps are part of their lives and their work. Native teachers, in remote areas of the Amazon region, teach children how to draw maps of their environment to protect their land, to make environmental assessments, to visualize their space. They need conventional maps and digital maps, but they also want to represent their worlds - material, physical, social, cultural, spiritual. Special needs cartography involves cultural mapping, it includes the social context and it certainly should get more attention of cartographers.

More than ever before, the digital new technologies are bringing many challenges to the discipline and particularly for special needs cartography. Nowadays, there are endless resources and opportunities available to make special graphic materials with sounds, text and tactile image capabilities for a map users who have to be prepared to cope with these outcomes, and they also need a teacher who understands the language of maps.

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