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The Information Value of Tactile Maps: A Comparison of Maps Printed with the Use of Different Techniques

P. 123-134

Jakub Wabiński, Albina Mościcka & Marta Kuźma

Abstract

Visually impaired people use tactile maps that can be read by the sense of touch or, to a limited extent, with their eyes. This article concerns the methods of assessing tactile maps in terms of their information value. In the research, methods used to assess traditional maps have been adopted to assess tactile maps. Tactile elements of two maps – one developed with the use of traditional methods and the second developed with the use of 3D printing – have been compared. Structural measures of information as well as the information efficiency coefficient of each map have been determined to assess whether new cartographic symbols proposed on a multi-level 3D printed map can increase its information value.

Do Maps Contribute to Pupils' Learning Skills in Primary Schools?

P. 135-149

Ilkay Bugdayci & Huseyin Zahit Selvi

Abstract

With the use of maps in different areas, a wide range of users exist who vary in their purposes and needs, according to their education level, age, cognitive level, and so on. Maps used by students in basic education need to be carefully designed and cartographers have important duties and responsibilities in designing maps according to the cognitive development levels of child users. An atlas design and production project entitled 'Atlas of Turkey for Elementary School' was carried out by the authors for the first stage of education. The aim of the study is to determine the contribution of the atlas to learning, reading and using maps. Thus, a questionnaire was applied to 494 students including 73 3rd grade (8–9 years) and 421 4th grade (9–10 years) students in four different schools. The results indicate that the use of the atlas increased the students' learning ability by an average of 40%.

Elements of Vivid Cartography

P. 150-166

Carolyn S. Fish

Abstract

As maps become more common and popular in the media to illustrate large social and environmental problems such as climate change, cartographers who are given this task are searching for ways to present information to persuade readers to care and take action. Research has shown that simply presenting facts is often not enough for someone to take action to solve these types of socio-environmental problems; information must not only be presented accurately but also must connect with readers' emotions. Indeed, cartographers have increasingly been interested in understanding not just the cognitive implications of map design but also both the persuasive nature of and affective responses to map design. Here

I present the term *vividness*, a term used in other communication domains to describe content which attracts attention, evokes emotion, and makes distant topics proximate to readers. While this term is new to the cartographic realm it provides a framework by which to evaluate maps for their persuasiveness based in both cognitive map design research conducted since the middle of the last century and newer research in cartography on maps and emotion. Through semi-structured interviews with experts I illustrate how cartographers create persuasive maps that align with the definition of vividness and I argue that vividness is composed of the following elements in maps: (1) visual salience, (2) visible change over time, (3) congruent colour use, (4) projection choice, (5) symbolization, (6) legend design, (7) layout, and (8) novel designs.

Evaluating PPGIS Usability in a Multi-National Field Study Combining Qualitative Surveys and Eye-Tracking

P. 167-182

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Abstract

For designing qualitative interfaces for Public Participatory Geographic Information Systems (PPGIS), the user and use case should be clearly defined. However, PPGIS users may differ significantly, e.g. regarding their cultural background, IT-literacy, or interests. Studies examining varying user types and their impact on PPGIS usability are, however, lacking. In this paper, we analyse the user spectrum through conducting a usability study with 73 participants located in Colombia, Uganda and Austria. We combined a qualitative survey (conducted in all three countries) with an eye-tracking based survey (conducted only in Austria). Most of the usability issues arose due to inexperience in using interactive maps or applications other than social media. Based on the findings, we explored which user context information had an impact on which usability problem. With this, we designed an adaptation gradient that can be used for future research on developing adaptive PPGIS interfaces.

Not Just Navigation: Thinking About the Movements of Maps in the Mobility and Humanities Field

P. 183-195

Tania Rossetto

Abstract

At a time characterized by the pervasive presence of – and enthusiasm for – maps in everyday life, interest in the cartographic humanities is growing among map scholars who approach cartography through a cultural lens. A mobility and humanities approach helps us move beyond the factual consideration of maps as mobile navigational devices that are used to move from one location to another. By considering mobility as a dense, elastic concept and adopting a humanistic perspective, I delineate a set of map mobilities emerging from the existing literature. A *movement as process* section focuses on post-representational, practice-based and historical approaches to mapping practices; a *movement as elusiveness* section focuses on material, more-than-human, surficial appreciations of cartographic objects; a *movement as reimagination* section focuses on theoretical, literary and art-based approaches to cartographic concepts. This focus on map mobilities illuminates the multiple theoretical and methodological possibilities of a renewed humanistic perspective in map studies.

Methodological Approaches to Creation of Educational Electronic Cartographic Guides

P. 196-205

Viktoriia Lepetiuk & Vitalii Ostroukh

Abstract

Modern electronic learning tools are a key component of informatization of education, the goal of which is the information technology proficiency as a competence of a future professional. Among the electronic learning tools for teaching geography and history, interactive cartographic guides play a significant role. Their creation requires the development of methodological approaches to their designing. In this article, we explain the essence of educational electronic

cartographic guides, reveal the methodological aspects of their creation and describe the specifics of their content. We use the modern approaches to the formation of cartographic images. We also highlight the basic requirements for educational electronic cartographic guides, present the technological scheme of creation of a typical educational electronic guide, and give recommendations for their editorial preparation. Finally, we report our practical achievements in creating educational electronic cartographic guides and interactive maps for the study of geography and history in the modern Ukrainian school.
