

Cartography, Children's Mapping, Drawing and Painting, and Photoatlas Storytelling: An Innovative Transdisciplinary Project

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Abstract:

The Barbara Petchenik Biennial Children's Map Competition was initiated by the International Cartographic Association 30 years ago, and today, in a globally connected world, it is more important than ever to engage children and young people in thoughtful exploration of the locational realities of the times, as well as to prepare them for future leadership roles. This is particularly important for Africa. United Nations Data indicates that Africa is the fastest growing continent and affirms that the region will play a central role in shaping the size and distribution of the world's population over the coming decades. <https://www.un.org/en/global-issues/population>. D. R. Fraser Taylor's research in cartography, which commenced in Kenya in the 1960s, affirms that both mapping and storytelling are fundamental human inclinations, and these topics continue to be researched in the work of the Geomatics and Cartographic Research Centre (GCRC) at Carleton University.

Since January 2022, the National Association of Child and Youth Care Workers (NACCW – South Africa) and Circle of All Nations (legacy work of late Indigenous Elder William Commanda) have been engaged with GCRC in the development of an innovative transdisciplinary project where cartography, child and youth care work, social justice priorities and Indigenous approaches are intermeshed with art and creativity, drawing together distinct disciplinary priorities of geo-science, social service and humanities, to take Children's Mapping from competition to affirmation of rights, consistent with the United Nations Convention on the Rights of the Child. Consistent with the art storytelling of the ancient humans in the caves in the vicinity of the 2023 ICC conference, learners in the *Isibindi-Ezikoleni (Safe Parks-Courage in Schools)* school-based program, supported by a dedicated team of child and youth care workers, have used crayons and paints to explore and present their worlds.

This presentation explores the relevance and potential of the art creation elements in children's mapping (drawing, painting and photoatlas storytelling) to surface enhanced awareness and understanding of locational and social issues of importance to children. Further to the 1968 research of Paivio, Rogers, and Smythe, regarding encoding information via writing, cognitive research by Fernandes, Wammes and Meade over the past decade regarding mnemonic (memory recall) tools, as articulated in their paper *The Surprisingly Powerful Influence of Drawing on Memory* (2018), indicates that retention increases from writing to visualization to drawing, and that drawing improves memory by promoting the integration of the elaborative, pictorial, and motor codes, facilitating creation of a context-rich representation; with drawn, visual representation of information, one must elaborate on its meaning and semantic features, engage in the actual hand movements needed for drawing (motor action) and visually inspect one's created picture (pictorial processing), and drawing integrates the individual codes. Further, they conclude that drawing is a robust encoding strategy that improves memory performance dramatically; it does so with vulnerable memories of aging and cognitively compromised seniors; and the potential exists that it can be a very useful learning practice for African (and other) youth embedded in a vast range of challenging locational realities. The enthusiasm with which NACCW cyw's and learners have embraced map drawing has been overwhelming: over 200 maps were created; 66 maps were submitted to the Children's Map competition by the NACCW team; now maps are being created for child protection and other priorities. Previously unspoken locational issues are now surfacing, and the children's mapping work is serving as a catalyst and

methodology to support practice, programs, policy and advocacy consistent with the United Nations Convention on the Rights of the Child.

Drawing on our cognitive cartography research on the *Circle of All Nations* work led by Indigenous Elder William Commanda, we also examine the following ideas: i. semiotics as the systematic study of sign processes, wherein a sign is defined as anything, including a symbol, that communicates something, intentionally or unintentionally, that is a meaning, to the sign's interpreter; ii. a symbol is a mark, sign or word that represents an idea, process or entity; iii. signs are produced by the conscious mind to present concepts; concepts are the abstract ideas that inform thought, beliefs, principles and world views; iv) while a sign communicates meaning, a sign is always less than the concept/s it represents; a symbol always stands for something more than its obvious and immediate meaning. Carto-Semiotics supports the visualization and apprehension of cultural, historical and contemporary information and knowledge, adds new dimensions meaning making, and demonstrates the potential range of application of cartography. Photoatlasing (after A. Wolodtschenko) demonstrates the potential of graphic storytelling to complement or enhance geographic information system data in global earth observation, particularly in the information age dominated by graphic digital technology. Grounded in the human cultural sign making heritage, children's mapping can also integrate reflection, self-empowerment and hope.

The children's maps, partly emergent from the child and youth care work of the social service sector, and grounded in the artistic expression, creativity and storytelling of the humanities, present animative and transformative cartographic expression for children and the global earth observation science.

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