

Critical 21st century cartography education: identifying course content and instruction methods for the curriculum

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Abstract:

Critical cartography in the 21st century has developed far from its initial deconstructionist roots. Today, discussions build on a paradigm challenging positivist cartographic assumptions and status quosocio-political structures, ideologies, and practices in a landscape contextualized by political and social instability, inequality, and ecological crisis (Harley, 1989; 1991; Crampton & Krygier, 2015; Rose-Redwood, 2015; Bencze, 2020). It is worth mentioning that contemporary critique increasingly incorporates feminist, indigenous, and otherwise marginalized perspectives in seeking broader socio-cultural transformation via mapping theory and practice.

Parallel to this, critical education theorists demonstrate the need and potential for critical pedagogies addressing decolonial, feminist, and community-oriented educational theories. Schick & Temperley (2021), Klein (2022), and Reano & Hesara (2024) argue that it is educators' responsibility to equip students with the necessary knowledge and skills for empowerment against social challenges. These arguments build upon the works of Freire (1973) and hooks (1994), both prominent figures in developing education as a fundamentally liberatory, critical, and transformative praxis. Though education is a key focus in cartography discourse, both across academia and from renowned organizations such as the International Cartographic Association (ICA), the literature demonstrates that attention often remains situated within positivist, techno-scientific paradigms (e.g., Ormeling, 2008; Sack, 2018; Meng et al., 2021). Equally, examples of critical cartographic practice are increasingly prevalent from grassroots organizations *outside* academia (see works in kollektiv orangotango, 2018). Recent work on decolonizing curricula by Laing (2020) and Radcliffe (2022), for example, demonstrates how critical theory may play out in geography education, which could also be applied to the cartographic discipline.

To understand and assess critical cartography higher education today, this research focuses on two main outcomes: (1) the development of a criteria framework for assessing critical content and instruction in cartography higher education at large and (2) an in-depth review of a higher education cartography curriculum against this framework. Focusing on the main elements of (1) critical content and (2) critical instruction, the developed framework adopts and adapts the method of Tintiangco-Cubales et al.'s (2020) critical curriculum review. In their study, they demonstrate the potential for such curricula reviews in overturning systemic oppression through educational structures.

In order to operationalize the research method and find out what critical content and instruction in cartography higher education entails, several university-level courses listing 'critical cartography' either in their title or description have been selected for initial review. Such courses are found worldwide, from the Philippines, Colombia, the USA, and Canada to several European countries. Interviews with course founders and lecturers are further undertaken to better understand coursework through the experience and advice of experts. Finally, these interview responses, in conjunction with course descriptions and theory, serve as a foundation for developing common criteria for critical cartography education: content and methods of instruction.

Criteria for content thus cover common themes, topics, and ideas that recur in the courses. Criteria for instruction, on the other hand, explore pedagogy and critical methods used explicitly in cartography teaching. Initial findings demonstrate that though critical cartography content varies, common emphasis is placed on foundational critical concepts and theory (e.g., 'representation', epistemology, J.B. Harley); the inclusion of multiple subjectivities (e.g., subverting hegemonic discourse, allowing controversies and contradictions), and the incorporation of marginalized or counter-narratives (e.g., counter-maps/mappings, alternatives to techno-mappings).

Methods of instruction emphasise those resisting classroom power imbalances, sharing counter-narratives, encouraging processes of decolonization, promoting perspective-taking, and ensuring non-white, non-Western representations. As seen through interviews, the role of student-led discussions and projects is often paramount to this.

The developed criteria framework is applied in an in-depth assessment of a university-level cartography curriculum to explore if, when, and how critical content and instruction are incorporated into program design. It is conducted in a case study of the International M.Sc. Cartography (www.cartographymaster.eu) to provide an example case application for review. As a program to which all authors have a relation (as a student, a staff member, and an alumna), the case presents a novel program example for examining how critical contemporary cartography education plays out in practice. The research findings may serve as a starting point or reference for developing and proposing critical cartography content and pedagogy in higher education curricula.

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