Research in Geography Education: Setting New Priorities to Address Global Challenges

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Abstract:
The recent publication *Geography education for global understanding* (Demirici, de Miguel, and Bednarz 2018) highlighted many of the complex, grand challenges facing our planet and provided cogent arguments for the role of geography education in addressing these issues. However, only sparse and fragmented research exists concerning how education generally, and global-understanding education specifically, can prepare individuals for a complex and difficult future. Although educators agree on the role geography should play in this important endeavor, little empirical *evidence* of how to accomplish this cognitively, socially, or emotionally exists.

Two publications focused on geography education research, the *International Declaration on Research in Geography Education* (2015) and the United States-focused *Road Map for Large-Scale Improvement of K-12 Geography Education (*https://www.nationalgeographic.org/education/programs/road-map-project/*)* concur that geography education research is limited by scarce resources, by small numbers of researchers, and by a lack of "substantive foci," that is, a clear, prioritized agenda to guide investigations. Each document provided suggestions about how to move forward. This paper will review these recommendations in light of new understandings of how learning happens, as captured in the view of the United States National Commission on Social, Emotional, and Academic Development (2019), which argues that to be effective, education must consider three distinct but related needs: social, emotional, and academic needs. The goal for geography education researchers must be to attend to the myriad requirements of learners to enable them to gain the significant knowledge, skills, and practices that will prepare them to be resilient and function successfully in challenging times. What research is needed? Where should we focus our limited resources? What needs immediate attention and what might we strategically postpone? Is this a critical turning point or simply a continuation of age-old structural issues?

Sarah Witham Bednarz is a professor emerita of geography and past president of the American Association of Geographers. Bednarz was principal investigator on two major curriculum and educational research projects, *Mission Geography* (NASA) and *Advancing Geospatial Skills in Geography and Spatial Sciences* (AGSSS); co-authored the national geography standards, *Geography for Life* (1994 and 2012); participated in the National Research Council *Learning to Think Spatially* project, and helped to develop the National Assessment of Educational Performance (NAEP) framework in geography. Dr. Bednarz holds a University Professorship for Teaching Excellence and received the George J. Miller Award from the National Council for Geographic Education in 2005 and the Gilbert H. Grosvenor Honors for Geographic Education from the Association of American Geographers in 2007. Recently she co-chaired the Geography Education Research Committee (GERC) of the *21st Century Road Map for 21st Century Geography Education Project* with Niem Huynh and Susan Heffron. She has long been interested in the intersection of teaching and learning geospatial technologies and spatial and geographic thinking, the result of her first career as a middle and high school geography teacher. Sarah and her husband, Robert, now live in Albuquerque, New Mexico.

Robert Bednarz is emeritus professor of geography at Texas A&M University. His research has focused on spatial thinking, the impact of using geo-spatial technologies on spatial-thinking skills, assessment of spatial-thinking skills, and the implementation of geo-spatial technologies in science and geoscience curricula. He served as president of the National Council for Geographic Education and as chair of the AAG's Geography Education Specialty Group. He has directed or co-directed funded projects to infuse geo-spatial technologies into the K-12 curriculum. He contributed strategies and

materials for two NASA-sponsored programs, *Mission Geography* and *GeoEarthKAM*. He also served as co-PI of an NSF project, *AGSSS: Advancing Geospatial Skills in Science and Social Science*. These recent projects reflect more than 20 years of working with K-12 teachers to enhance their knowledge, skills, and strategies. Dr. Bednarz has significant editorial experience, serving as editor of the *Journal of Geography* from 1987 to 1997 and presently as North American editor of the *Journal of Geography in Higher Education*. In addition to his professional publications, he has also authored several middle and high school textbooks.