Research in geography education: moving from declarations and road maps to actions

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In 2015, the Commission on Geographical Education of the International Geographical Union published the International Declaration on Research in Geography Education (www.igu-cge.org/2015-declaration). Just two years earlier, the National Geographic Society’s Road Map for 21st Century Geography Education project issued a report that argued new approaches to research were needed to enact broad-scale improvements in geography education (Bednarz, Heffron, & Huynh, 2013). Both documents attempt to define the scope of what constitutes research in the field, and each presents examples of methodologies and research designs that are needed to produce more rigorous studies. They also acknowledge the importance of developing future researchers, capacity building, and strategic planning.

In the case of the Road Map report, it is the latest in a string of similar assessments that have appeared in the literature to foster research activity of high intellectual and practical aspirations (Butt, 2010; Segall & Helfenbein, 2008; Bednarz, Downs, & Vender, 2003; Boehm & Petersen, 1997; Forsyth, 1995; Downs, 1994). To our knowledge, the IGU CGE Research Declaration is the first statement of its kind that is intended to provide a shared international view of research challenges and priorities in geography education.

While the Road Map report and IGU Research Declaration provide sound rationales for geography education research, in and of themselves the publications guarantee nothing in terms of how researchers will do research and how research might inform practitioners in the future. Action is needed to transform the considerable amount of latent energy contained in both reports into tangible and kinetic lines of research addressing the big educational challenges of our times.

As readers of IRGEE already know, this is easier said than done. The IGU CGE Research Declaration points to a concern that “current research in geography education is often small-scale, short-term, piecemeal, and underfunded” (p. 4). Many reasons for this are provided, including (p. 7):

- “the immediate, practical concerns and interests of researchers, which may limit the topics being researched in geography education;
- limited intra-institutional and inter-institutional research groups, which may inhibit opportunities to develop research;
- a lack of stable, substantive foci for research, nationally and internationally, which may have the effect that gaps in research remain unaddressed;
• limited ties with members of other education research disciplines/areas, which might constrain opportunities to enhance research of value across cognate disciplines/areas;
• constrained national and international infrastructures to foster and support research in geography education, which inhibit researchers from gaining informative access to the cognate research of others;
• access to funds for research, which limits the ability to undertake research.”

The same structural handicaps exist in the U.S., which are further exacerbated by the ongoing disappearance of graduate research programs in geography education, the prioritization of educational research funding for Science, Technology, Engineering, and Mathematics (STEM) disciplines, and the dissolution of the state-based network of Geographic Alliances that formerly provided opportunities for researchers to gain access to and collect data from schools and other authentic educational settings.

The IGU-CGE Declaration makes clear the considerable international diversity of geography education contexts with regard to issues such as curricular requirements, approaches to teacher education and professional development, and the purpose and scope of geography assessments. Similarly, we see varying roles of local, provincial, and national governmental agencies in these matters, with some countries favoring centralized decision-making and others ceding control over education to states and local communities and jurisdictions. Just as each country has its own priorities and challenges in relation to geography education, so too must research be designed to address the unique internal situations and characteristics of schools, teachers, and students.

However, this does not mean that we as members of an international geography education community have nothing to gain from communicating and collaborating with each other. As IRGEE has shown over the past several decades of its publication, both researchers and practitioners stand to learn from and become inspired by their international colleagues working to improve geography education through research. This includes research of a nature that provides international comparative perspectives on issues that all geography educators care about.

**The importance of scientific research networks**

So, what can be done? The Road Map report and IGU CGE Research Declaration both point to the value of research cooperation and network-building, and the ways geography organizations are uniquely situated to facilitate communications and provide spaces for dialogue and debate among researchers. Informal networks also have a role to play, such as the International Network for Learning and Teaching (INLT) that has organized workshops since 1999 resulting in occasional research syntheses appearing in the *Journal of Geography in Higher Education* (Healey, Pawson, & Solem 2010; Solem 2011). In the U.K., the Geography Education Research Collective (www.gereco.org) periodically convenes researchers from multiple universities to debate contemporary issues and explore opportunities to develop collaborative research.
initiatives. We think research networks like these are critically needed to advance the implementation of research that is consistent with the goals of the Road Map project and IGU CGE Research Declaration.

Here in the National Center for Research in Geography Education (NCRGE), we are working to build a research coordination network (RCN) dedicated to the following goals, which align closely with both the Road Map project and IGU CGE Research Declaration:

1. Catalyze research planning with strong potential to result in transformative research projects in geography education.
2. Facilitate collaborative research among geographers and STEM education researchers.
3. Attract more diverse cohorts of graduate students to Master’s and Ph.D. programs in Geography Education.
4. Increase research productivity and the knowledge base in geography education.
5. Long-term growth and stability of the RCN.
6. Promote the use of research to improve practice in geography education.

NCRGE provides a Transformative Research grant program to support the growth and development of the RCN, which as of this writing is comprised of over 200 individual researchers and practitioners across more than 60 research organizations and schools in the U.S. alone, with dozens more involved from locations across Europe, Asia, and the Americas (Figure 1). Members of the RCN have used funding from the Transformative Research program to organize new collaborative and interdisciplinary groups in research areas identified as priorities in both the Road Map report and IGU CGE Research Declaration: learning progressions, spatial thinking, project-based learning, academic advising, and models of pedagogical content knowledge and technological pedagogical content knowledge. Their activities are coordinated by staff located at NCRGE’s two headquarters, Texas State University and the American Association of Geographers. A recent article appearing in The Professional Geographer provides full details on the process of building this RCN (Solem & Boehm, 2017).

At its core, NCRGE’s Transformative Research grant program seeks to break down silos that have long stymied the replication and reproducibility of research. It is a modest yet unique mechanism available for researchers in any country to enact the ambitious agendas of the Road Map project and IGU Research Declaration. Any researcher who wants to join or propose a line of research is welcome to complete an RCN application at www.ncrge.org/rcn.

As a U.S. taxpayer-funded initiative, NCRGE’s Transformative Research grant program only supports projects that have clear potential to benefit U.S. geography education research, policy, and practice. This should not be viewed by international researchers as a limitation, but only as an opportunity to build closer working relationships between our nations. We fully agree with the spirit expressed in the IGU CGE Research Declaration with regard to international research collaborations (p. 2):

“Insofar as possible, international collaborative approaches to geography education research should involve partners from countries across the diverse range of political and
Figure 1. NCRGE research coordination network member locations as of March 1, 2018.
socio-economic contexts. Whilst financial and other constraints can make this collaboration challenging, the Commission sees significant value in researchers from different contexts working and learning together.”

**Transforming geography education through international collaboration**

Two examples of projects under development with support from NCRGE offer compelling evidence of what is possible when people come together internationally to take on shared grand challenges. The first, Powerful Geography (www.powerfulgeography.org), is rooted in the theoretical framework developed by the international GeoCapabilities project from 2013 to 2017 (Lambert & Solem, 2017). Initially a transatlantic venture between the U.S., England, and Finland, GeoCapabilities has gone on to inspire a remarkable range of activities around the world, with new research, curriculum frameworks, and teacher training innovations emerging in the Netherlands, Sweden, China, Japan, India, Germany, Portugal, Serbia, Czechia, Singapore, Australia, New Zealand, and beyond.

Powerful Geography is applying the capabilities approach pioneered in GeoCapabilities to research the design and development of new geography curriculum standards and programs for geography teacher education in the U.S., where very few geography teachers actually have a geography background. Powerful Geography aims to move beyond national standards that have little influence on classroom realities to orient teachers on powerful disciplinary knowledge at the state level, with a focus on state standards, jobs and career opportunities, the needs of local communities, and the potential of a diverse student population. This approach will be flexible enough to offer a pathway to careers and jobs for future citizens, and over time broadened to influence teacher preparation programs and the preparation of textbooks and learning materials in geography and the social studies.

Powerful Geography in the United States K-12 educational environment begins with evincing a research-based curriculum framework designed to update *Geography for Life: National Geography Standards* (Heffron and Downs, 2012) using the theoretical thrust of GeoCapabilities. Additionally, recent work in educational curriculum theory has informed us of the value of a “bottom-up” approach to standards requirements as opposed to the traditional “top-down” model used in *Geography for Life*. Clearly one size fits all does not work, especially in the U.S. where the federal government has relatively little role to play in the curricular affairs of schools. Wesley Null expresses it well, “Curriculum needs to be liberated from ways of thinking that have shackled its growth and quality for decades” (Null, 2017). Further, Null describes “top-down” curriculum frameworks as generated by “Utopian Dreamers” (often university professors) who “focus so much on what could be that they forget that curriculum must start with reality and all its imperfections” (Null, 2017).

We invite readers of IRGEE to participate in the Powerful Geography international conference in San Jose, Costa Rica, from November 1 to 4, 2018. This conference will not only advance the work of Powerful Geography in the U.S., but a concurrent international track of sessions will showcase how researchers in other countries are
using the momentum of GeoCapabilities to address the myriad challenges facing geography education and schools.

A second project we would like to highlight illustrates the value of an international collaborative methodology informing the design, implementation, and delivery of a Trends in International Geography Assessment Study (www.tigas2023.com). The goal is to plan, design, and develop an international geography assessment modeled on the Trends in International Mathematics and Science Study. TIGAS is being led by a study group consisting of researchers in the U.S., Australia, Netherlands, Singapore, South Korea, Switzerland, and Czechia. The partner organizations include NCRGE (AAG and Texas State University), Western Michigan University, ETS, the International Association for the Evaluation of Educational Achievement, and the TIMSS & PIRLS International Study Center at Boston College.

To date, the TIGAS project has developed a provisional assessment framework built from the IGU CGE Charter on Geographical Education and supplemented with data from preliminary surveys of geography curricula in several countries. The TIGAS study group has also prepared a four-year methodology to develop valid, fair, and reliable geography assessment items for inclusion in an optional module for the 2023 TIMSS. This process will include empirically testing geography assessment items created for national assessments, with the aim of identifying item characteristics that enhance valid inferences about test scores in an international testing environment.

Future deployment of the geography assessment as an optional module in TIMSS will produce long-term trend data supporting new lines of research in the field, including international comparative research that has significant potential to identify cross-cultural factors and educational practices influencing patterns in students’ geographic knowledge, skills, and abilities. This is something that existing national assessments alone cannot accomplish.

**Geography education research is an “All Hands on Deck” imperative**

It is very true that the challenges facing geography education appear daunting, even insurmountable. Yet it is also true that a dialogue about solutions and strategies in finally occurring at the international scale, and that an infrastructure is emerging that can enable and motivate us to tackle the difficult and time-consuming work necessary to foster and sustain meaningful, and potentially transformative, lines of research.

Ten years from now, perhaps there will be another retrospective assessment of geography education along the lines of the Road Map project or IGU CGE Research Declaration. What do we want to see in such a report? Hopefully we won’t read, “nothing has changed.” The uptick in coordinated research activity within and across nations, such as the example networks and projects described above, provide optimism that words on a page are being acted upon in conscientious and coordinated attempts to improve geography education through research.

Still, we in the geography education research community could use some help. For too long, geographers in the academy have ignored educational issues in our schools and the potential of geography education research to address those issues. This is ironic, because nothing is more foundational to the health and status of geography as a discipline and
science than the very system of geography education that nurtures geographic expertise in a developmental process across primary, secondary, and tertiary settings.

In our country, we see this self-destructive mentality whenever departments decide not to replace a retiring geography educator with another, when students are dissuaded from pursuing research theses or dissertations in geography education, when a rebranding fervor results in “geography” losing its identify and visibility on our college campuses, when school geography becomes buried under interdisciplinary studies and curriculum frameworks, and when federal funding for geography education continues to remain uncertain and scarce. At the same time, we increasingly hear the laments echoing in the halls of geography departments, “Why are our course enrollments declining?” “Why is the public so ignorant about geography?” “Why is my program being merged or defunded?” “Where is the diversity in our student population and professoriate?”

We now have an unfortunate “Catch-22” situation, where the shortage of data and evidence-based practices is cited by education analysts as a reason for the low status and quality of geography education, and the lack of a strong integrated system of geography education is cited by publishers and funders as a rationale for investing in other subjects. At some point, intervention in this situation is necessary. Given our commitments to improving geography education at all levels, we believe research networks and organizations such as the IGU CGE, GeReCo, INLT, and NCRGE are appropriate entities to make that intervention, and that this can be achieved by joining forces to advocate strategically while working to foster research activity of the highest quality.

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References


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