

Peer-to-Peer Research Fellowships

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Introduction

In an effort to assist with building a research coordination network (RCN) for transforming geography education, the Peer-to-Peer Research Fellowships Committee was charged with developing ideas on the nature of a successful fellows program. An emphasis for Committee activities was identified as targeting fellowships that would enable transformative educational research.

Based on activities and discussion at the AAG Annual Meeting in Chicago in April 2015, transformative research in geographic education was characterized by one or more of the following qualities:

- Multi-site and/or replicable research design
- Longitudinal research
- Explores integrated learning in formal and informal settings
- Considers issues of diversity and broadening participation
- Identifies implications of research for contemporary educational policy
- Involves educative curricula
- Explores research issues across the educational continuum (from pre-K through high school, community colleges, four-year undergraduate and beyond)
- Involves interdisciplinary methods and teams
- Engages practitioners in research

The Peer-to-Peer Research Fellowships Committee was challenged to identify possible additional characteristics of transformative research and to suggest procedures/structures to facilitate and support transformative research in geography education over the long-term. Questions provided for the Committee to address included:

- How might a fellowship be structured?
- Who would be eligible to apply for a fellowship and what would be their responsibilities?
- What should be the minimum/maximum amount and duration of a research planning activity supported by a fellowship?
- How might the outcomes of a fellowship be shared with the broader research coordination network?

Committee Response

Idea development by committee members was assisted by their differing experiences and expertise and by an existing insect genetics RCN peer-to-peer training program that identifies procedures that were established to accomplish technical training for members of that network. In addition, a committee member communicated with Bob Dulli (retired from National Geographic Society) and Dick Boehm (Texas State) about the value and procedures for two programs that have tapped into the expertise of geographic

education scholars. The ‘Geographer in Residence’ program at the National Geographic Society (NGS) has been in place for over two decades. Grosvenor Fellows are affiliated with the Grosvenor Center at Texas State University and have been selected to contribute to specific projects over the last decade. Based on communication with Bob and Dick it is clear that these programs present a win-win situation for those involved in information sharing and idea development. From the perspective of developing an RCN proposal, language can be used to indicate that the geography education community has a track record of past success in facilitating face-to-face collaboration.

Transformative Research in Geographic Education

Discussion at the AAG meeting in Chicago identified several characteristics of transformative research that address themes related to curriculum development, scaffolding, a diversity of learners, student and teacher engagement, education policy, long-term research efforts, multi-site team efforts, interdisciplinary collaborations, and informal or non-traditional learning. Among those characteristics, committee members wanted to stress the importance of replicable research and the use of established research methods. Given the large number of potential pathways for transforming geographic education and likely limited funding, there is a current need to establish a priority for research that can be replicated across a diversity of learning environments. In addition, the wording developed for the NCGE Miller Award (specifically the ‘Purpose’ section) was mentioned, since that specific language was designed with NSF criteria in mind (NCGE 2015). Highly relevant phrases include:

- “innovative research in theory, practice, and application”
- “intended to advance the frontiers of geographic education”
- “original investigations of learning processes, techniques, and content”

While we recognize the need to use established methods and prioritize the effort given limited available funds, additional transformative research themes could address:

- enabling and learning from assessment
- international cooperation
- identifying ways that spatial learning and human-environment learning are different from and similar to other types of learning (e.g., empirical, historical, natural and physical science, ethical reasoning, aesthetic interpretation)
- how our increasing use of cyber infrastructure facilitates but may also limit geographic education

Procedures and Structures to Facilitate Peer-to-Peer Research

Research collaboration involves an initial investment to build trust and enable a better understanding of the ideas that others possess. Clearly peer-to-peer research activities are vitally important for transforming geographic education research. To facilitate Peer-to-Peer Research, we suggest a program that includes an application that identifies:

- how the proposed activity is transformative (which is included in a summary [of at least one page] of the proposed activities)
- the fellow, the host institution, and the fellow’s sponsor (this will include both email and phone contact information)
- a letter or statement of support from the host institution
- a description and relevant outcomes of the fellow’s activity to obtain matching funds

- attachments (as needed) that identify the character of relevant data, any diagrams of the research design, a relevant bibliography, a relevant literature review, etc.
- current C.V.s for the fellow and the fellow's sponsor
- for student applicants, a statement of support from the academic advisor
- presentation and/or publication plans
- ideas relevant to subsequent pursuit of additional funding (the idea that peer-to-peer fellowships will be viewed as "seed money" to establish the validity of ideas and the strength of a partnership was suggested as important)

Eligibility, Fellow Responsibilities, and Sponsor Responsibilities

The committee considered eligibility and responsibility aspects of our charge to be less challenging given available resources from other programs. The procedures for the NCGE Miller Award (NCGE 2015) have worked well nearly a decade. In addressing issues related to eligibility and responsibilities, we recognized that:

- faculty, independent scholars, post-docs, and students are eligible to apply
- eligible sponsors are either academic faculty, research professionals, or independent scholars
- fellows are responsible for:
 - o initiating the process
 - o carrying out all administrative activities associated with National Center for Research in Geography Education (NCRGE)
 - o managing the transformative research activities
 - o preparing all reports to NCRGE related to the fellowship
- sponsors are responsible for:
 - o working collaboratively with the fellow to maximize the fellowship
 - o insuring that the fellow has adequate facilities while at the host institution
 - o providing recommendations regarding local logistics

Funding Levels, Award Duration, Number of Awards, Frequency of Award Decision Making

These topics are difficult to address at this time. Funding level needs to be sufficient to enable the basic aspects of the activity: transportation, lodging, and per diem. Experience suggests that a week-long visit to another location would generate legitimate travel expenses in the neighborhood of \$1,500. A similar amount is likely needed to assist the fellow with registration and attendance at a high profile professional meeting. Procedures need to be in place to provide a way to reimburse the fellow for relevant expenses using NCRGE funds. This is seen as preferred to avoid addressing the issue of indirect costs associated with funds transfer to other institutions. Supplemental funding from the host institution might take the form of a modest honorarium for the presentation of a colloquium to faculty and students. Supplemental funding from the fellow's department and/or college might provide some summer funding to further the activity and/or additional travel funds to present the scholarship at one or more professional meetings. Fellows should be encouraged to seek supplemental funding to 'share the wealth' of limited NCRGE funds. The RCN proposal might start with a smaller amount allocated during the first year (perhaps \$15,000) and grow the amount by 50% in subsequent years. A question remains about whether or not the host might also receive some NCRGE funds for travel to the professional meeting where a summary of the activity will be presented by the fellow.

Regarding award duration, a length of one year seems appropriate. Hopefully, some flexibility can be built into this time window based on the award date and the timing of the most relevant professional

meeting for a summary presentation by the fellow. Award decision making should occur on at least an annual basis, with perhaps a second offering in 'mid-year' if sufficient funds are available.

Communication related to awards and scholarly findings

It is hoped that the NCRGE will have the appropriate infrastructure to assist the fellow in communicating about the activity. A NCRGE website can be used for some of the information sharing. Information blasts from NCRGE to NCGE and AAG online communication outlets will assist in this process. Clearly, the fellow will be required to provide a brief report following any face-to-face activity or relevant professional meeting activity in order to obtain reimbursement. It is suggested that the NCRGE consider organizing a session for fellows at either NCGE or AAG to assist with information sharing and that this might help facilitate a special issue of a geographic education journal.

Concluding Thoughts

There is a strong need for geographic education to move forward in new and transformative ways that provide evidence to a multi-disciplinary community of scholars that the work is salient, credible, and legitimate. Within Geography and Spatial Sciences at NSF, discussion of transformative research involves discussion of "The Isserman Curve" (Baerwald 2013). Using a sigmoidal curve to characterize the innovation and adoption process, Andrew Isserman suggested that innovators and the earliest of early adopters are the ones presenting ideas that are truly transformative for a given line of research and related funding streams. Using these ideas, good work by established scholars adding a little bit to "more of the same" does not qualify as transformative.

Over the last few decades, both the establishment of state-level geographic alliances and the developments of geographic information systems have helped transform aspects of geographic education. However, new opportunities are needed, and now exist. As new and rapidly advancing brain research helps transform how humans take in and process geographic information, it is critical that research in geographic education keeps pace with this new understanding of the character of human cognition. Advancing geographic education frontiers will likely come from research grounded in the scientific process that involves testing ideas with observations and then replication of those tests across a variety of learning environments and with a diversity of teachers and their students.

References

Baerwald, Thomas J., 2013. The Legacy of Andrew Isserman at the US National Science Foundation *International Regional Science Review Vol. 36: 29-35*

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