Guest Editorial Preface

Special Issue on Applied Geography in Academia:
Content, Curricula, Status, Methods, and Future

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In recent decades, applied geography has shown an increase in both importance and presence in many geography departments, but, as with the establishment of GIScience as a focused curriculum it still exists as a somewhat amorphous subdiscipline. There seems to be little consensus about what constitutes applied geography, how it is situated with the larger discipline and the geographic tools, effective methods of instruction, its placement within different types of departments, significant events driving applied geography, the linkage to geographic theory, its market in both academia and the public and private sector, or its future. While much of this might seem obvious, little of it has been documented and there is the likelihood that what is known is both anecdotal and possibly incorrect. If applied geography is to survive as a subdiscipline it is important to begin to document and formalize what is known about its many aspects as an academic pursuit. Not only will this promote applied geography educators to begin to consider what they teach and how they teach it, but it also informs graduate students of important research questions needing investigation. This special issue of the International Journal of Applied Geospatial Research is designed to begin a dialogue among applied geography educators, students, and practitioners to enrich the intellectual roots of the subdiscipline. Selected papers from a special session at the 2017 AAG meeting, augmented by an invited paper are used here as the beginnings of that dialogue.

The DeMers paper examines the need for applied geography students involved in geographic information systems (GIS) to have the background knowledge of both the technical aspects of GIS in addition to the common approach to employing existing GIS software for the solution of geographic problems. Its' approach is to show that while the cartographic output from GIS can often be visually compelling, the underlying data models and algorithms may be computationally effective, they often fail to adequately model the true geography. It provides examples of this issue from land classification and map overlay, area boundaries and continua, and surface representation issues. Ultimately the paper strongly urges that, prior to allowing applied geography students to begin modeling with GIS software, it is important to understand the conceptual issues, generalizations, and limitations of algorithms and data models so the learners will understand the adequacy of the output from modeling.

Campbell's three R's article demonstrates how local conditions can be very effective as the setting for applied geography education. In her case she refers to the three R's of reduce, reuse, and recycle, as her work focuses on the campus recycling program at her university becomes an excellent opportunity to not only examine the process of the campus recycling program, but also results in useful information for the university. The paper provides detail of how the sustainability module is implemented including the use of preparatory videos, field trips and participatory mapping. One

important feature of this paper is that the approach is portable – being adaptable to virtually any university setting. Thus, Campbell's work highlights a truly innovative approach to teaching applied geography, and one that incorporates the geographer's toolkit within a real setting, while limiting the expense of such exercises.

Enhancing the toolkit of the applied geographer is the theme of Magrane's article dealing with the relationship between geohumanities and applied geography within the context of class field experiences. This unique, but significant approach makes a very strong link between the current trends in geohumanities as public engaged practice and the general subdiscipline of applied geography. Harkening back to an earlier period in geography where prose was a typical method of geographers to document their environment it enhances that approach by demonstrating how creativity and critical qualitative geography to solve real-world problems; the goal of applied geography. To do this, Magrane demonstrates his methodology with two practical case studies: Applying geohumanities by linking climate change and poetry and other narratives, and poetic inventories and literary field guide development for Saguaro National Park. The major take-away of his work is to clearly show the linkage between literary and artistic practices and geographic inquiry.

The anchoring paper by Labosier clearly shows the important integrative nature of geography in general and applied geography specifically as he shows the linkage of applied geography to environmental science curricula. First, he explains the difference between multidisciplinary and interdisciplinary especially as they are manifest in the environmental science curriculum. His focus on interdisciplinary thought, the ability to think across disciplines, not just to employ multiple disciplines is the hallmark of his paper. Labosier provides two very applied classroom activities – climate change concept mapping and hazard behavior, response and communication. Among the important concepts the students would learn is how to deal with incomplete or contradictory data, shifting priorities, uncertainty, and an urgency to avoid the worst detrimental priorities. He also discusses the integration of physical and social sciences by allowing students to experience hazard behavior, response and communication by examining why some individuals do or do not respond to hazard warnings. These two examples provide yet another excellent example of how applied geography can be taught and how interdisciplinary knowledge is at the heart of applied geography.

In total, these four papers are but a tiny sample of the types and nature of geographic teaching that is part of the applied geography curriculum. More to the point, their rather uniqueness suggests that the subdiscipline of applied geography is far more than the application of traditional geographic tools to geographic problems. It further suggests that as the discipline expands to include new ideas like participatory research, interdisciplinary approaches, geohumanities tools, and a foundation of the roots of the discipline, it will also need to continue the dialogue begun in this issue to ensure these ideas are incorporated into applied geographic education. Perhaps more importantly, it may spur the generation of a body of knowledge for applied geography that begins to identify core ideas that comprise the state of the art of the subdiscipline. Such a body of knowledge would, of necessity, be updated as new tools, new problems, and new conceptualizations add to the existing subdiscipline.

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