

Developing Workforce Competencies in U.S. Postgraduate Geography (0249)

Research Domain: Student experience

Part 1 Abstract

This paper will report a summary of findings from an ongoing research investigation examining the competencies of postgraduate geography students and professional geographers working in business, government, and nonprofit organizations in the United States. The presentation will synthesize findings from three interrelated studies to provide insight on the following questions:

- 1) What disciplinary and generic competences define the knowledge, skills, perspectives and abilities expected of professional geographers?
- 2) How and to what extent are postgraduate academic programs in geography equipping students with competences for professional positions in different industries?
- 3) How are national and global trends in the economy likely to affect the demand for geographic competences and related career opportunities for geographers?

The studies that will be summarized in this presentation are being conducted for the “Enhancing Departments and Graduate Education in Geography” (EDGE) project led by the **Error! Reference source not found.** (AAG) with funding from the National Science Foundation.

Part 2 Outline

This paper will offer an overview of the EDGE project’s latest research and discuss the extent the findings are congruent with current theoretical perspectives on spatial thinking, competency models, and the nature of geographic knowledge and skills in higher education and as applied in different industries and areas of employment.

Since 2005, EDGE has supported a variety of activities aimed at improving theoretical and practical approaches to the professional development of geographers. EDGE researchers have disseminated this work nationally and internationally through presentations at academic conferences, publications in scholarly journals, and outreach to relevant professional and academic organizations in higher education.

One of the outcomes of the EDGE project was a competency model for the field of professional geography (Solem, Cheung, and Schlemper 2008). This work subsequently informed the development of a model of workforce competences in the geospatial technology industry (DOLETA 2010). Both competency models provide researchers

with a conceptual basis for coding and categorizing the skills of professional geographers and geographic information scientists. Participants in these studies included geographers, cartographers, GIS specialists, urban planners, environmental scientists, and other professionals who apply spatial thinking skills and geographic technologies in business, government, and nonprofit organizations. The need for research into geographic competences is evidenced in studies from the U.S. and the U.K. that have addressed the issue of “employability” in geography and geographic information science, a term describing the readiness of an individual to obtain and then maintain employment (Mistry, White, and Berardi 2006; Donert 2007; Solem, Cheung, and Schlemper 2008; Estaville 2010; Wikle 2010).

EDGE has recently concluded three studies that build upon this prior work. This paper presentation will summarize findings from the EDGE project’s latest studies as follows:

1. *Work Logs of Professional Geographers*: This study gathered data over a period of six months (October 2010 – March 2011) from over 100 professional geographers. Each month, the study participants completed a log of their work activities (similar to a diary or brief journal entry). The log instrument consists of check-box responses and a few short-answer questions to collect information about the assignments, projects and tasks that respondents worked on in a particular week, how certain individuals or events affected their overall work progress, and the types of knowledge and skills they used to complete their work. The work log provides a highly precise method for collecting information about applications of competences because the logs are completed at a time during which or shortly after such work occurs (Solem, Hopwood, and Schlemper 2011).

Participants in the study indicated obstacles that impeded task and project completion, strategies for addressing these obstacles, and employer support for professional development activities. While the large majority of respondents reported satisfaction with their weekly progress, the log study reveals that widespread and ongoing challenges faced by professional geographers include inadequate resources and funding, competing demands, time management, and interpersonal conflict. At the same time, a minority of respondents reported participation in employer-sponsored or employer-supported professional development opportunities, the most common forms of which include travel support for conference or meeting attendance and funding for training or workshops. These findings suggest that geographers might benefit from additional professional development activities that focus on transferable skills, in addition to those that relate specifically to job functions and roles.

2. *Employer Perspectives on Geography Skills*. In the past decade, numerous research and media reports have raised concerns about postgraduate students' preparation for the demands of careers in the 21st century. At the same time, opportunities for geographers appear to be expanding. For example, the U.S. Department of Labor has identified new occupations associated with geography, particularly those that utilize geospatial technologies, and it predicts faster than average growth in many jobs that employ geographers (2008-2018). This study is based on interviews with employers in business, government, and non-profit (BGN) organizations to learn how geography is practiced.

The analysis identifies the geographic and transferable skills demanded in today's workplace, and explores employers' perspectives on the career preparation of geographers. This presentation will highlight key findings gathered through semi-structured phone interviews with employers and discuss these findings within the broader context of current higher education research and priorities related to U.S. competitiveness, STEM education, and globalization.

3. Competency Development in Postgraduate Geography Programs. This presentation will also summarize findings of two surveys administered to a national sample of graduate students and faculty in master's and doctoral geography programs in the United States. The surveys collected information about the career aspirations of geography graduate students and the types of courses, advising, and professional development experiences offered by various master's and PhD programs. The surveys also measure the extent geography graduate students are being prepared in competencies valued by employers. The presentation will focus on a comparative analysis of how students and faculty assess the quality of graduate programs in relation to preparing geographers for academic and non-academic professional careers.

References

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