

FACULTY PERCEPTIONS OF INTERNATIONALIZATION
IN POSTSECONDARY GEOGRAPHY

THESIS

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ABSTRACT

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This research measures how geography faculty members perceive the value of internationalization for teaching, learning, and research, by means of a survey sent to a sample of U.S. faculty by the Association of American Geographers. Internationalization is portrayed as a process that incorporates both international and intercultural components into the functions of higher education. Motivational systems theory is used to explain the relationships between faculty characteristics, experiences with internationalization, and perceptions of the value of global learning outcomes. The study also considers the ways departments and institutions encourage faculty to participate in international collaborative teaching and research. Departmental and institutional support and perceived advantages to

teaching and research are among the factors that motivate faculty to practice international collaboration.

Keywords: postsecondary geography, internationalization, motivational systems theory

CHAPTER 1

INTRODUCTION

Statement of the Research Problem

The research goal is to investigate how postsecondary geography faculty members in the United States perceive the importance of internationalization for their teaching and research. Specifically, I explore geography faculty member practices and perceptions with regard to two components of internationalization—international collaborations and internationalized curriculum. First, I investigate the motivational factors that influence faculty members' participation in international teaching and research collaborations in order to understand why some faculty members engage in international collaborative activities while others do not. Second, I measure faculty member perceptions of the value of global learning goals for the courses they teach to determine the level of support for global education in postsecondary geography. The study also considers the effects of departmental and institutional support for internationalization on faculty member practices and perceptions.

Background

Internationalization is an umbrella term and its activities are perceived differently by those in academia. Lowenthal (1998) includes activities such as: international research; recruitment with an international or multicultural focus;

articulation agreements that cross national borders; fundraising; business partnerships; distance education; study abroad programs; international curricula; investment; faculty and student exchanges; and multicultural curricula. Lujan (2000) adds area and civilization studies, issues-oriented approaches, comparative approaches, and intercultural communications to this list of internationalization activities. Currie et al. (2003, 11) caution that “recently initiated programs gaining revenue from international students should not be considered a form of internationalization but a part of the university’s neoliberal globalization agenda.” Green and Olson (2003, 3) explain that “as increased technology and travel, economic integration, and environmental interdependence diminish the barriers among nation-states, [some consider that] the imperative to know about other societies and cultures increases.” However, others view globalization and internationalization distinctly – globalization strictly as an economic phenomenon and internationalization as cultural-historical-political phenomena, respectively (Green and Olson 2003).

Previous research on internationalization in postsecondary geography focuses mostly on the nature of internationalization specific to geography with little emphasis on tested learning outcomes or discipline-wide trends in faculty practices. For example, geographers have reviewed strategies for internationalization (Haigh 2002; Fortuijn 2002; Haigh 2003), discuss the development of international networks (Healey 1998; Hay, Foote, and Healey 2000; Shepherd, Monk, and Fortuijn 2000; Donert 2003), reveal the limitations of a predominantly Western-focused viewpoint (Garcia-Ramon and Monk 1997;

Jackson 2003), and report on the teaching of international perspectives (Libbee 1988) or ideals of global citizenship (Kaviola 2003; Hartmann 2004; Martin 2004). Many studies address the use of information and communication technologies (ICT) as they relate to the benefits and challenges of online and distance education in postsecondary geography (Craft, Carr, and Fung 1998; Foote 1999a; Foote 1999b; Hurley, Proctor, and Ford 1999; Warf, Vincent, and Purcell 1999; Reeve et al. 2000; Rich, Robinson, and Bednarz 2000; Solem 2000; Mitchell and Reed 2001; Reed and Mitchell 2001; Mendler, Simon, and Broome 2002; Solem 2002; Chalmers et al. 2003; Jain and Getis 2003; Solem and Gillespie 2003; Solem et al. 2003; Brooks and Morgan 2004; Fox and Assmo 2004; See et al. 2004).

The support and efforts of faculty are critical for internationalization to occur. Green and Olson explain that:

Although vigorous leadership by the president, provost, and chief international educator is essential to envisioning, financing, and steering internationalization, a core of committed faculty is essential to create and sustain its transformation (Green and Olson 2003, 69)

Shepherd, Monk, and Fortuijn (2000) note several barriers to implementing international teaching collaborations encountered by geography faculty, including the lack of resources and training. Institutional barriers (e.g. accreditation, administration, and inter-university funding for collaborative projects) are speculated by Foote (1999a) to be the greatest obstacle to the development of worthwhile international collaborations. This research is designed to clarify the

motivations of geography faculty to support and participate in efforts of internationalization.

Significance

Geography faculty members' perceptions of internationalization differ, but the extent of diverging viewpoints or reasons for differences with regard to educational innovations, such as Internet-based teaching, are unclear. Solem (2001, 2003) writes that "it may prove worthwhile to consider how faculty member perceptions could facilitate the development and use of high quality resources." In a distance education framework, Crawford and Gannon-Cook (2002) support the need for research concerning faculty perceptions and the factors that influence faculty participation. Several factors are important to consider in relation to faculty motivation, including: (a) social and professional characteristics, such as research specialization and gender; (b) departmental and institutional characteristics, such as department and institution types; (c) experience with internationalization; (d) goals for teaching and research; (e) self-perceived skills; (f) perceived departmental and institutional support; and (g) the perceived value of international and global education learning goals.

A primary focus of the American Council on Education (ACE), a coordinating body of higher education institutions, is to "help colleges and universities prepare students to work and live in a globally interdependent world" (American Council on Education 2004). A recent ACE project funded by the Carnegie Corporation entitled "Where Faculty Live: Internationalizing the Disciplines" brings together four disciplinary associations, the Association of

American Geographers (AAG), the American Historical Association, the American Political Science Association and the American Psychological Association with a steering committee that includes the American Association for the Advancement of Science, the American Council of Learned Societies, the Consortium of Social Science Associations, and the National Humanities Alliance to promote internationalization of teaching and learning at U.S colleges and universities (Solem 2004). My survey research supports this project by providing the needed background information about current practices and faculty member perceptions regarding internationalization in postsecondary geography. Two of the major goals of the ACE project, the development of an action plan to promote internationalization in postsecondary geography and the integration of institutional strategies to promote internationalization (Solem 2004), are informed by my research.

The significance of my research is twofold. First, the findings provide a baseline of information regarding geography faculty practices and values of internationalization. These conclusions are meaningful for those developing departmental and institutional internationalization initiatives in postsecondary geography. Second, this research contributes to the growing body of literature regarding the application of motivational systems theory to higher education faculty. Postsecondary geography faculty members' goals and personal agency beliefs—two key components of motivation—are determined to be important research considerations.

Scope and Limitations

This research focuses on how geography faculty in the U.S. perceive the value of internationalization for teaching, learning, and research, and how these perceptions are related to their involvement with international collaboration, support for global learning, and perceived support from departments and institutions. The target population is defined as full-time geography faculty members who are members of the Association of American Geographers and teach at a higher education institution in the United States. The literature background to my research is limited to English-language resources, primarily articles from journals published in the United States and the United Kingdom with authors predominately from Europe, Australia, New Zealand and North America. A Western perspective, therefore, permeates my research. The literature review herein is not meant to be an extensive survey of the history of internationalization, which is found in Lowenthal (1998) and Hser (2003).

Definitions of Terms

Climate: “Climate examines the current perceptions, attitudes, and expectations that define the institution and its members” (Bauer 1998, 2). Climate focuses on specific parts of an institution and is more apt to change than institutional culture, which is more holistic (Bauer 1998).

Goals: There are two basic properties of goals. First, “goals represent the consequences to be achieved (or avoided)” (Ford 1992, 83). Second, goals serve as influences on the person trying to produce those consequences (Ford 1992).

Global citizenship: Allegiance to the ideals of equity and the value of diversity with an understanding of the relationships between economic, political, social, cultural, technological, and environmental scales from the local to the global (adapted from Oxfam 1997).

Global education: “An approach to education involving the learning of problems and issues that cut across national boundaries. It involves the interconnectedness of systems related to cultural, ecological, economic, political, and technological agendas” (Lujan 2000).

Internationalization: “The process of integrating an international/intercultural dimension into teaching, research, and service functions of the institution” (Knight and de Wit 1995, 17).

International collaboration: Cross-border “efforts involving groups of [academic] geographers from different universities working together on projects intended to serve larger academic and public audiences” (Foote 1999b, 108).

Thesis Organization

Chapter 2 reviews the literature relevant to the research problem. To begin, the chapter provides a foundation for understanding internationalization in higher education. The chapter defines internationalization in higher education, discusses various approaches to internationalization, and identifies participants in internationalization. The chapter continues with a section pertaining to global education and global citizenship, and then narrows focus to global education projects in geography. Next, the chapter explores research on internationalization

in postsecondary geography. The chapter then broadens focus to faculty motivation to use innovative teaching methods and closes with a section describing international collaborative learning and teaching.

Chapter 3 presents the theoretical framework of the research. The chapter begins with a background of motivational systems theory. Next, the chapter discusses the application of motivational systems theory to higher education, which is followed by a section on the intellectual critiques of motivational systems theory. The chapter closes with a discussion of motivational systems theory applied to the research problem.

Chapter 4 begins with a discussion of the survey research methods. Next, the working hypotheses and variables are discussed. The development and implementation of the survey, the treatment of the data, and the design of analysis compose the bulk of Chapter 4. The chapter ends with a discussion of the sources of error in the research.

Chapter 5 presents the results of the survey research. A descriptive analysis of respondents and summary of the results as they relate to the working hypotheses follows. The chapter continues with the analyses related to testing the null hypotheses. The chapter ends with analyses of the association between faculty member participation in international collaborative activities and tactics that departments and institutions employ to support internationalization efforts.

Chapter 6 presents the discussion, research implications, future research suggestions, and conclusions. While the research implications and future research suggestions are specific to the discipline of geography in the United States, future

research suggestions include research pathways at the departmental and institutional scale.

Chapter Summary

Chapter 1 defines the research problem, which is to investigate the extent to which postsecondary geography faculty in the United States are practicing internationalization and global education in their teaching and research and to measure their perceptions of (a) the value of internationalization for teaching and learning, (b) departmental and institutional support for internationalization. The chapter continues with the background and significance of this research as it relates to a recent ACE project funded by the Carnegie Corporation entitled “Where Faculty Live: Internationalizing the Disciplines.” Next, the scope and limitations and definitions of key terms are presented. The chapter concludes with a summary of the organization of the thesis.

CHAPTER 2

LITERATURE REVIEW

Internationalization in Higher Education

The concept of internationalization in higher education is historically and regionally situated (Haigh 2002) and nuances in the way in which scholars construct the term illustrate its multiple meanings. Internationalization in higher education, internationalization of the curriculum, and internationalization of postsecondary geography are recognized as a process, but each entail different meanings based on the motivations of the practitioners. Schoorman (1997) affirms that internationalization is rooted in four interconnected rationales (world peace, international competition, global cooperation, and global knowledge); others place a heavier emphasis on economic forces of globalization and global competition (Haigh 2002; Jackson 2003; Waks 2003). Change in American institutions of higher education is largely due to changes in external influences, including society, technology, national needs, and the economy (Black and Bonham 1980; Groennings 1990). Currie et al. (2003, 11) indicate that internationalization “represents arrangements between nation-states primarily cultivating greater *tolerance* and exchange of ideas.” Qiang (2003) doubts that today’s higher education can be viewed in national contexts and calls for a more encompassing definition of internationalization that considers an institution’s

entire functioning, not just parts of it. Regardless of the definition of internationalization,

High levels of internationalization require new mindsets, a culture change, significant curricular reform, and intentional strategies to make the whole greater than the sum of its parts and to create connections among disconnected aspects of internationalization (Green and Olson 2003, 23)

Knight (1997) discusses four approaches toward the internationalization process that are distinguished by their academic, economic, social, and political characteristics. The traditional “activity-based” approach deals with processes such as mobility, international student recruitment, knowledge transfer, and curricular reform. The “competency” approach stresses the value of internationalization based on the personal and professional development of individuals. The “cultural” approach focuses on the internationalization of campuses to promote an international culture on campuses. The “process” approach incorporates the activities and outcomes of the other approaches (Knight 1997). Green and Olson (2003) confirm these processes with their five major goals of internationalization in the following categories: academic; economic and entrepreneurial; social; national security and foreign policy; and external forces. Some speculate that the rationale for and goals of internationalization efforts heightened in the aftermath September 11, 2001 (Green 2002) and claim that the United States’ need for expertise in foreign languages and area studies has become critical (Hser 2003). Others note that student visas for cross-border studies are more difficult to obtain (Bithell 2004; Levy 2004).

Regardless of its definition, approach, or rationale, internationalization is a process that to varying degrees affects academic institutions at all levels—from

the disciplines themselves, to individual departments, faculty members, and students. Internationalization occurs incrementally and at different rates within the disciplines, departments, and faculties (Green and Olson 2003). Comparative studies among predominately American higher education institutions indicate a wide degree of differences in levels of internationalization (Ward 1998; Hser 2003). Larger institutions are thought to have an increased degree of internationalization than smaller universities and universities with more foreign scholars are expected to have higher levels of internationalization (Hser 2003). Siaya and Hayward (2003) report that institutional type alone does not affect an institution's level of internationalization.

Academic disciplines change to varying degrees due to the impact of internationalization. These changes include: "new theoretical constructs; new ways of doing research; the use of foreign data to test hypotheses; the emergence of a global perspective; and the involvement of an increasing number of faculty members" (Groennings 1990, 22). In the discipline of geography, geographers confront issues of internationalization in different ways. Fortuijn (2002, 264) argues that "internationalisation is a permanent struggle in search of a balance between diversity on the one hand and commonality on the other." Haigh (2002, 51) writes that "internationalization of the curriculum is about universal suffrage and this is why, it is to be hoped, geographers would wish to be involved."

Likewise, academic departments and their members contribute to activities related to internationalization. Departments may or may not seek faculty with international backgrounds, support curricula infusing international perspectives,

and work toward the success of international programs (Groennings 1990). Groennings (1990, 11) conveys the importance of faculty support for internationalization by indicating that “basic changes in the curriculum do not occur until faculty in their disciplinary and departmental arenas are ready to implement them.” A study of administrators and faculty at an American research university reports that faculty members’ primary role in internationalization is as curriculum developers and that “even among faculty members of the same department, there was considerable diversity in perspectives on the nature and scope of internationalization desired” (Schoorman 1997, 105).

Global Citizenship and Global Education

Some supporters of internationalized education contend, to varying degrees, that internationalization should foster the development of global citizens (Kaviola 2003; Solem and Gillespie 2003) and two preeminent works shape our understanding of global citizenship. The international organization Oxfam recognizes a global citizen as one who:

- (a) is aware of the wider world and has a sense of their own role as a world citizen
- (b) respects and values diversity
- (c) has an understanding of how the world works economically, politically, socially, culturally, technologically, and environmentally
- (d) is outraged by social injustice
- (e) participates in and contributes to the community at a range of levels from the local to the global
- (f) is willing to act to make the world a more equitable and sustainable place
- (g) takes responsibility for their actions (Oxfam 1997, 2)

Hanvey (1976) describes the dimensions of a global perspective: (a) perspective consciousness; (b) state of the planet awareness; (c) cross-cultural awareness; (d)

knowledge of global dynamics; and (e) awareness of human choices. Solem and Gillespie (2003) use Hanvey's dimensions as the framework for the development of instructional materials that promote global citizenship. Oxfam (1997) and other Oxfam International publications are commonly cited in materials relevant to internationalization, such as *Theory into Practice: Global Citizenship Education* (Walkington 1999), which is published by the United Kingdom's Geographical Association for an audience of geography teachers.

Global education serves different purposes and as a result what qualifies as global education varies depending on the context. The creation of global citizens is for some the qualifying factor for global education; in other contexts global education is defined merely as international education. For instance, Mason (1998) distinguishes five criteria of global education, as follows: (a) teacher and students in more than two continents; (b) a specified goal of attracting international participation; (c) course content created for transnational participation; (d) institutional and technological support structures to teach and administer to a body of international students; and (e) at least 100 international participants in several programs and curriculum areas. Garcia-Ramon and Monk (1997) argue that to be truly global education, the efforts of global education need to be more inclusive, especially toward those with non-Western values. For the purposes of my research, internationalization is deemed as one of the processes that contribute to the practice of global education.

Global Education Projects in Geography

Recent global education projects build international collaborations and develop curriculum and instruction materials (Solem et al. 2003). Projects such as Global Learning and Observations to Benefit the Environment (GLOBE) and Global SchoolNet are networks that connect educators from different nations and coordinate collaborative teaching and learning initiatives for primary and secondary schools (Solem et al. 2003). International collaborations specific to geography education include EUROGAME, YoungNet, My Community, Our Earth-Geographic Learning for Sustainable Development, eNews, and DUNES (Solem et al. 2003; Brooks and Morgan 2004). Three notable projects that promote global geography education through the use of curriculum materials are Geographic Inquiry into Global Issues, ARGWorld, and Hands-On! (Solem et al. 2003).

A recent project for promoting international collaboration in geography is the Online Center for Global Geography Education (CGGE), funded in part by the National Science Foundation. CGGE is supported by key national and international organizations including the Association of American Geographers (AAG), the Grosvenor Center for Geographic Education, the International Geographical Union (IGU), the International Network for Learning and Teaching Geography in Higher Education (INLT), and the National Council for Geographic Education. The CGGE's aims are to create, evaluate, and disseminate instructional materials that "promote international perspectives, teach geographical skills, and engage international teams of students in collaborative

learning” (Center for Global Geography Education 2003). After the evaluation of a prototype module on Migration, Solem et al. (2003) reports that the CCGE has produced three new modules: Population, Nationalism, and Global Economy.

International Collaborative Learning and Teaching

Mason (1998, 6) writes that

A good many areas of the curriculum are inherently global in nature and some particularly lend themselves to course development on an international scale, providing students with a much broader perspective than a course presented by a single lecturer or developed by a single institution (Mason 1998, 6)

Using the European Union’s ERASMUS as a case study, Fortuijn (2002) concludes that international collaborations need to have a diversity of content and methods to be successful. In the United States, one of the difficulties of the development of international learning and teaching collaborations is that faculty members are not trained adequately in curriculum design, instructional methods, student assessment, or instructional materials evaluation (Foote 1999a).

Generally, academics are not trained to work together in these capacities, which serve as a barrier to faculty collaborative teams (Bohen and Stiles 1998).

Several reports of international collaborations draw attention to the practical difficulties of their development. Reed and Mitchell (2001, 335) write that “collaborating was more time-consuming than working alone” and that collaboration necessitates an increased need for institutional support. International collaborations are often subject to trial-and-error experiments that require the instructional design to be revised (Solem et al. 2003), which can be costly and frustrating when faced with the deadlines of academic schedules.

International collaboration in postsecondary geography is supported by ICT in several ways. Rich, Robinson, and Bednarz (2000) identify five key areas of support: (1) interactions between students and instructors; (2) interactions among students; (3) collaborative developing of instructional materials; (4) databases and information portals; and (5) joint course or program delivery. Indeed, several geographers “strongly support the development of ‘clearinghouses’ and ‘subject gateways’ which will allow geographical educational objects to be published via the Web” (Reeve et al. 2000, 236). Hurley, Proctor, and Ford (1999, 139) recognize that “designing and implementing both constructivist-based strategies and Internet-based tools requires a considerable commitment of time, effort and resources, as well as technical savvy, from potential instructors.”

Research on the Internationalization of Postsecondary Geography

One dominant research focus of internationalization in postsecondary geography suggests strategies necessary for internationalization to occur. Although the content of geography deals with international topics, human geography as taught in higher education institutions tends to promote national agendas (Haigh 2002), therefore geographers must rethink their approach in order to successfully internationalize their teaching. Haigh (2002) emphasizes the need for effective multicultural education strategies and the need for strong departmental support for faculty to gain international experiences. Based on a nine year experience with a program on geography and gender for the European

ERASMUS—an international teaching and learning project—Fortuijn encourages diversity in the pedagogy of internationalized projects, since:

Universities differ in the emphasis on formal or informal teaching, on written exams and paper or oral presentations and debate, in social distance between staff and students (and among staff), in orientation to theoretical perspectives, social problems, policy issues, empirical precision, research methods and research practice. They differ in the way they define geography and what is relevant in a geography curriculum (Fortuijn 2002, 268)

Further, Fortuijn (2002, 268) stresses using a “diversity principle” in the development of materials and content for an audience of international students. Haigh (2002) and Fortuijn (2002) provide significant insights into good practice in internationalization, however, unraveling local practices and incorporating all viewpoints are daunting tasks.

To overcome challenges to internationalization, geographers develop international networks to create opportunities for international teaching and learning collaborations. Healey (1998) and Hay, Foote, and Healey (2000) discuss the obstacles and opportunities of one international network, the INLT. Healey (1998) underlines the importance of a network of peers for the dissemination of good practice in learning and teaching while arguing that previous networks have the following undesirable traits: they are predominately project based; they are uneven between countries; and they are insular. Healey (1998) closes with pertinent questions regarding the development of the INLT. Hay, Foote, and Healey (2000) respond to these questions and set an agenda for future projects of the INLT. Shepherd, Monk, and Fortuijn (2000) pose the possible pitfalls of an international network in postsecondary geography. They caution that an

international network could inadvertently led to a 'new imperialism' due to uneven participation in the network or a core curriculum in postsecondary geography. Equity, equality, pluralism, and equality of access are critical for a true international network (Shepherd, Monk, and Fortuijn 2000). One network, HERODOT, focuses specifically on professional development for higher education geography faculty in Europe (Donert 2003). This network concentrates on the Europeanization of higher education geography and innovative professional development, learning, and teaching (HERODOT 2004).

Challenges to the development of international networks include the exclusion of participants due to linguistic, cultural, and philosophical barriers (Garcia-Ramon and Monk 1997; Shepherd, Monk, and Fortuijn 2000; Jackson 2003). Jackson (2003) poses the strongest argument against internationalization found in the mainstream geography literature by calling into question the underlying Western world-view that dominates globalization processes, which includes internationalization of the curriculum. Jackson contends that:

As de facto supporters of the globalisation process, Western academics should logically see that their primary concern is to ensure that the Western materialistic, capitalistic and hedonistic world-view upon which globalisation is constructed is thoroughly implanted/reinforced in the student's mind (Jackson 2003, 329)

In response to Jackson (2003), Haigh (2003) indicates that internationalization within the context of globalisation is a harsh situation. "Research (and increasingly teaching) is conducted in a spirit of cut-throat competition, with ratings, wealth and prestige being the ultimate prize for the successful university" (Haigh 2003, 334). Hay, Foote, and Healey (2000) reinforce this description of

the increasingly competitive culture of higher education. They view international networks as an opportunity to utilize technological shifts, educational change, and resource limitations to pool educational resources, exchange experiences of good practice, and facilitate wide-scale pedagogic cooperation. Haigh acknowledges that

It may be a fundamental flaw in the geographers' critique of society that our questioning of basic world-views remains academic, while our training in skills provides practical support to the needs of the globalised corporate world (Haigh 2003, 336)

Geographers contend with the challenges of internationalization by enhancing their teaching strategies and content to focus on international perspectives (Libbee 1988), global citizenship (Kaivola 2003; Hartmann 2004; Martin 2004) or the benefits and challenges of online and distance education (Foote 1999a; Foote 1999b; Hurley, Proctor, and Ford 1999; Warf, Vincent, and Purcell 1999; Reeve et al. 2000; Rich, Robinson, and Bednarz 2000; Solem 2000; Mitchell and Reed 2001; Reed and Mitchell 2001; Mendler, Simon, and Broome 2002; Solem 2002; Chalmers et al. 2003; Jain and Getis 2003; Solem and Gillespie 2003; Solem et al. 2003; Brooks and Morgan 2004; Fox and Assmo 2004; See et al. 2004). Many strategies to internationalize postsecondary geography presented in the literature are not evaluated to determine the specific contributions the effort has made to international understanding. Shepherd, Monk, and Fortuijn (2000) indicate that the most important indicator of a successful international network is the benefit to students.

Of the numerous sources related to internationalization in postsecondary geography, a few specifically report research related to student learning outcomes.

Several sources pertain to the learning outcomes of the Online Center for Global Geography Education (CGGE) international collaborative learning modules (Solem and Gillespie 2003; Solem et al. 2003). Hurley, Proctor, and Ford (1999) report the results of qualitative study of learning outcomes based on an experimental Internet-based constructivist geography course. Mitchell and Reed (2001) and Reed and Mitchell (2001) are concerned with creating a model for collaborative learning using information technologies and they focus on reporting course evaluations rather than student learning outcomes. Similarly, Warf, Vincent, and Purcell (1999) report the design, implementation, and evaluation of an international collaborative Internet-based course. Reeve et al. (2000) caution that technology alone should not drive distance learning in postsecondary geography; they propose educational strategies to meet the diverse audience of distance education students, as well as recommend the investigation of business models and the evaluation of curriculum content. Rich, Robinson, and Bednarz (2000) define collaborative learning using ICT and identify obstacles to implementation.

Faculty Motivation to Use Innovative Teaching Methods

Faculty motivation to use innovative teaching methods is best understood in the context of faculty cultures. These cultures include “the culture of the academic profession, the culture of the academy as an organization, the cultures of particular disciplines, the cultures of institutional types, and the culture of the particular department” (Austin 1994, 48). Culture examines disciplines, institutions, and departments from a holistic point of view, whereas climate

examines specific parts of an institution and is more apt to change than culture.

Bauer (1998, 2) explains that “climate examines the current perceptions, attitudes, and expectations that define the institution and its members.”

A faculty member’s discipline is often the primary concentration of their professional identity (Clark 1987; Austin 1994) and different disciplines have varying expectations for faculty behavior (Becher 1989; Colbeck 1998). Through faculty member perceptions, this research explores the disciplinary, departmental, and institutional climate for internationalization in postsecondary geography.

Given that academic staff members are expected to generate funds, perform research, work as consultants, participate in university administration, undertake community service activities, and teach (Hay, Foote, and Healey 2000), faculty motivation to adopt new instructional methods has to overcome persistent barriers. “The pragmatic, motivational and implementation issues can be formidable obstacles for faculty hoping to utilize these pedagogical alternatives” (Surry and Land 2000, 148). Foote writes that:

Faculty incentives and rewards, as well as financial and institutional factors, will remain barriers to collaborative projects for some time to come. The irony of this situation is that some of the most difficult barriers to surmount are ones that have evolved over the past century to assure the quality of scholarship, to reward faculty accomplishment, and to fund and expand systems of higher education (Foote 1999b, 116)

Faculty members do overcome obstacles when skills, goals, experience, perceived benefits, and their departmental and disciplinary culture support the intended outcome. In an analysis of the adoption process of instructional innovation, Kozma (1985) observes that instructional improvement efforts that do not correspond to organizational or student needs ultimately fail. “In its dominant

form, instructional innovation is an internal process of personal or professional development” (Kozma 1985, 130). The adaptation of instructional innovations is an evolutionary process that has several features. McInnis (2002) identifies three areas that the use of online teaching and learning innovations can motivate faculty members to change: student group organizations; student instruction and support for student learning; and student evaluation.

Several studies help to explain the variability in faculty motivation to use innovative teaching methods. Matney, Hurtado, and Ziskin (1999, 28) find that tenured and fully promoted faculty “felt freer to invest time in new teaching strategies and in learning more about student development and instructional theories.” In a study of American liberal arts colleges, Ward (1998) finds that faculty intrinsic motivation is a key player in the teaching improvement process. A case study of instructional reforms implemented by engineering faculty finds that extrinsic and intrinsic motivations are often interrelated and difficult to separate (Serow, Brawner, and Demery 1999). With respect to internationalization efforts, Siaya and Hayward (2003, 73) “suggest that many faculty had personal interest in internationalization that was not dependent on institutional policies or practices.”

Understanding the perceptions of faculty members toward their departments and institutions is important for leaders to make good decisions and support the work of their faculty (Austin 1994). Davis et al. (1982) find that organizational support factors contribute substantially to faculty members’ adoption and continued utilization of new instructional methods. In a survey to

compare administrator and faculty attitudes toward research orientations, teaching orientations, rewards, and university missions, Bohen and Stiles (1998, 223) report that faculty “believe that they have not been rewarded for their teaching activities.” In one study related to education study, faculty were found to be unsatisfied with their teaching even though they were motivated and committed to it (Lee 2001), perhaps due to either the lack of organizational support or a relevant reward structure. Feldmen and Paulsen (1999) report that several studies indicate that one crucial characteristic of a supportive teaching culture is to connect reward and tenure decisions to teaching evaluations.

Chapter Summary

My review of the literature pertinent to internationalization presents internationalization as a process contextually based in global education and the creation of global citizens. I identify recent global education projects in geography, international collaborative learning and teaching, and detail research related to internationalization in postsecondary geography. The bulk of this literature deals with model-building or the evaluation of ICT-based courses, with little attention to actual student learning outcomes. I discuss faculty member motivation to use innovative teaching methods to highlight some factors that support educational change at the postsecondary level.

CHAPTER 3

THEORETICAL FRAMEWORK

Background of Motivational Systems Theory

Martin E. Ford (1992) developed *motivational systems theory* (MST) as an integrative conceptualization of motivation based on the large body of literature related to human motivation. This literature is categorized by behaviorist and personality traditions developed in the 20th century and spans topics from psychoanalytic theory, drive theory, cognitive dissonance theory, to social learning theory, among others (Cofer and Appley 1964; McClelland 1987; Ford 1992). Ford (1992) identifies a lack of cohesion within the literature related to motivation and seeks to clearly conceptualize motivational patterns and to integrate other theories into his MST framework.

MST defines the basic unit of motivation as a behavior episode, which “is a context-specific, goal-directed pattern of behavior that unfolds over time” (Ford 1992, 245). The behavior episode ends when the goal is accomplished to one degree or another, a different goal takes precedence or the goal is deemed unattainable at the current time (Ford 1992). The behavior episode schemata (BES) “is an internal representation of a set of related behavior episode experiences including episodes that have only been imagined or observed” (Ford 1992, 246). The BES shapes how one reacts in a specific behavior episode that is goal and context specific (Ford 1992). Three factors

influence a person's BES: (a) personality; (b) achievement; and (c) competence (Ford 1992). Within MST, personality is defined as a person's recurring BES, while achievement is defined as the attainment of a social or personal goal within a specific context. Competence is defined as achievement in a specified environment that results in positive developmental outcomes (Ford 1992).

Effective functioning in a behavior episode requires motivation, skill, biological functioning, and a responsive environment (Ford 1992). Ford (1992, 124) represents the variables of motivational systems theory into the following symbolic formula:

$$\text{Achievement/Competence} = \text{Motivation (Goals} \times \text{Emotions} \times \text{Personal Agency Beliefs)}$$

Goals "play a leadership role in motivational patterns by defining their context and direction" (Ford 1992, 249). Goals represent consequences desired to be achieved or avoided (Ford 1992). Emotions are organized functional patterns that consist of affective, physiological, and transactional components (Ford 1992). Ford (1992) groups evaluative thoughts related to the desired and anticipated consequence into personal agency beliefs, which can be divided between capability beliefs—the perceptions of relevant skills—and context beliefs—the perceptions of a responsive or non-responsive environment.

Application of Motivational Systems Theory to Higher Education

Several researchers apply MST to postsecondary educational problems. Colbeck, Cabrera, and Marine (2002) investigate engineering faculty motivation to use alternative teaching methods and finds that MST has a strong explanatory power when compared to models previously employed, which looked at interest

in teaching (Blackburn and Lawrence 1995) and teaching assignment satisfaction (Einarson 2001). A study of decisions of education faculty to adopt computer use in their classrooms utilized MST as a functional theoretical framework (Berner 2002).

Intellectual Critiques of Motivational Systems Theory

Perspectives on the field of motivation vary by researcher. Some psychologists argue that human motives are immeasurable (McClelland 1987). Other motivational theories or models have the potential to explain faculty member motivation to participate in internationalization efforts. Surry and Land (2000) apply the Attention gaining, Relevance, Confidence building and Satisfaction (ARCS) model of motivation developed by John Keller, who applied E. M. Rogers' categories of individual innovativeness (innovators, early adopters, early majority, late majority, and laggards) to create a viable theoretical framework for technology adoption.

Motivational Systems Theory Applied to the Research Problem

Two of the three key components of motivation, goals, and personal agency beliefs, serve as the primary variables in my research. The emotion component is not included because "emotions do not provide direct information about what a person is trying to accomplish or avoid" (Ford 1992, 252). Further, emotions are more transitory than goals and personal agency beliefs and therefore less relevant to the research problem. A graphical representation of the conceptual framework, adapted in part from Colbeck, Cabrera, and Marine (2002), is presented in Figure 1. I investigate goals for teaching and goals for research as the

two types of goals related to a faculty member's motivation to collaborate internationally in their teaching or research. The capability belief of interest in this study relates to faculty self-perception of their ability to undertake international collaborations. The two context beliefs relevant to the research problem are beliefs stemming from faculty member characteristics and perceived support from the institution and department. Faculty characteristics influence faculty member practices (Blackburn and Lawrence 1995; Einarson 2001; Colbeck, Cabrera, and Marine 2002) and are an important consideration for understanding the motivational factors.

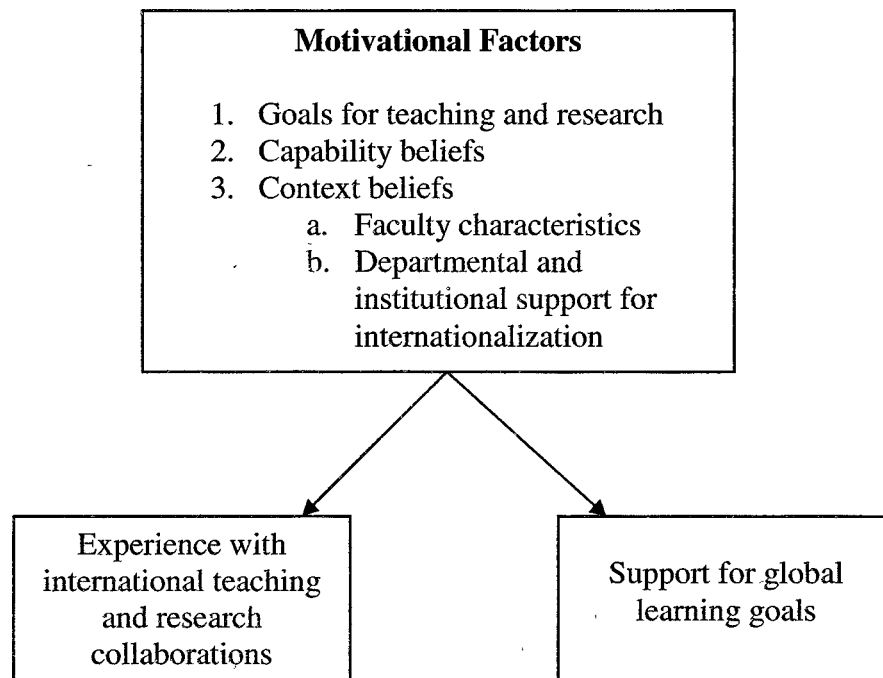


Fig. 1. Conceptual framework

Chapter Summary

Chapter 3 provides the theoretical framework for my research. The chapter begins with a brief background of motivational systems theory. Next, the chapter presents applications of motivational systems theory to higher education and then provides intellectual critiques of motivational systems theory. The chapter concludes with a conceptual framework for applying motivational systems theory to the research problem.

CHAPTER 4

RESEARCH METHODS

Description of the Survey Research Methods

The primary means of distribution of the survey used in this study is a World Wide Web-based questionnaire, which offers a better interface, is less expensive, and is more expeditious than a postal survey (Madge and O'Connor 2004). Another benefit of Web-based questionnaires is that a geographically dispersed population is easier to reach and is able to respond (Madge and O'Connor 2004). There are also fewer data-entry errors associated with Web surveys (Porter 2004) as long as the programming is sound. Problems of online questionnaires include lower response rates in surveys with more than 10-15 questions when compared to other survey formats (Madge and O'Connor 2004). However, Porter (2004) reports that the impact of survey length on response rates has only a modest negative effect.

Response rates are a concern for survey researchers because survey non-response may bias survey results (Groves 1989). Based on a review of relevant literature, Porter (2004) suggests the following to raise response rates: (a) the request for participation should come from a source viewed by the respondent as legitimate; (b) the survey cover letter should ask for the respondents "help" and emphasize that the respondents are part of a select group; (c) the respondents should be pre-notified of the survey; making multiple contacts with the members

of the sample; and (d) providing respondents with a clear deadline to complete the survey. Porter (2004) and Solomon (2001) recommend simpler formats for Web-based surveys. Solomon (2001) also recommends personalized e-mail cover letters to increase response rates.

“Surveys can be especially helpful in providing baseline information about aspects of the [academic] climate, which can be compared with data collected at a later time, as well as in identifying dimensions of the climate around which faculty hold divergent perceptions” (Austin 1994, 60). The purpose of this survey research is to collect predominately quantitative data to determine geography faculty practices and perceptions with regard to internationalization.

Survey Description

Part I of the survey contains items related to social, professional, departmental, and institutional characteristics relevant to the research problem. Highest academic qualification, year the highest academic qualification was received, attendance at academic institutions outside the country of birth, professional affiliation, employment outside the country of birth, department type, institution type, institution region, current title, academic specialization, and gender are the survey items in Part I.

Part II of the survey contains a list of international and intercultural competencies widely accepted by global education practitioners (Green and Olson 2003, 106-107). The competencies are divided into knowledge, values, and skills proficiencies. The competencies developed from an institutional survey distributed by the American Council of Education wherein the knowledge, values,

and skills outcomes were ranked by faculty members. This section of the survey relates to faculty members' goals for teaching since they are asked to rank the importance of these competencies in terms of what they aim to accomplish in their classes.

Part III of the survey includes items to address faculty member context and capability beliefs. Part III contains general statements that will be used to describe how geography faculty members perceive the value of internationalization for teaching and research. A seven-point Likert scale (strongly agree, moderately agree, slightly agree, no opinion/don't know, slightly disagree, moderately disagree, strongly disagree) is used to measure faculty perceptions in this section. These items stem from the conceptual framework and the research problem. Six items address goals for teaching with regard to internationalization. Four items deal with goals for research. Two items address the self-perceived skills of faculty members to participate in international collaborative teaching and research.

Part IV of the survey contains items related to context beliefs. The first section identifies the tactics in which departments and institutions support internationalization, while the second section contains Likert-scaled items. Possible responses to the first section (12 items) of Part IV are: *yes, my department does this*; *I don't know if my department does this*; or *no, my department does not do this*. An additional open-ended item provides for responses of other tactics departments and institutions employ to support internationalization.

In the second section of Part IV, two items ask respondents to rate both their department and institution overall in terms of commitment to internationalization. Two items address changes in international opportunities after the events of September 11, 2001. A seven-point Likert scale (*strongly agree, moderately agree, slightly agree, no opinion/don't know, slightly disagree, moderately disagree, strongly disagree*) measures faculty perceptions for these items.

Part V of the survey contains questions to determine the level in which the respondent participates in internationalization. Included in this section are questions regarding international collaboration in research and teaching, international teaching experiences, attendance at international conferences, memberships in international organizations, student international educational experiences, and international publications. Respondents indicate whether or not they have done any one of these items, and if they mark *yes*, they are asked to describe their experiences in an open-ended manner. For items related to international collaborative teaching and research, respondents were asked if the Internet was used for some or all of the collaborations.

Research Hypotheses

My research goals are to investigate the factors that influence geography faculty member participation in international collaborations and how faculty members value global learning goals in terms of the courses they teach. Motivational systems theory serves as the framework that connects the research questions to the working hypotheses. The research hypotheses are as follows:

Hypothesis 1: Patterns of faculty experience with international collaboration will vary on the basis of motivational factors defined by

- (a) goals for teaching and research
- (b) capability beliefs
- (c) context beliefs

Hypothesis 2: Patterns of faculty support for global learning will vary on the basis of motivational factors defined by

- (a) goals for teaching and research
- (b) capability beliefs
- (c) context beliefs

Goals for teaching and research and capability beliefs are measured by Likert-scaled items related to faculty member ambitions and self-perceived skills related to international collaboration and international learning. Context beliefs are measured by (a) faculty member characteristics as they relate to individual context beliefs and (b) Likert-scaled items related to perceptions of the climate for internationalization.

Variables

Table 1 outlines the contents of the survey and data gathered. Several nominal variables serve as the basis for sorting and analyzing the data. Such variables include social and professional characteristics, departmental and institutional characteristics, and experience with international collaborations. Social and professional characteristics include: (a) year cohort of highest degree award; (b) current title; (c) academic specialization; (d) gender; and (e) native language. Departmental and institutional characteristics include: (a) department type; (b) institution type; and (c) institution region. One of the professional characteristics considered, year cohort of highest degree, is based on Somers et al.

(1998) and are as follows: (a) 1960 or earlier to 1972; (b) 1973 to 1982; and (c) 1983 to 2005. Part IV of the survey, presented in Appendix 1, contains the items related to faculty member characteristics.

Table 1. Survey variables

Social and professional characteristics:
Year cohort of highest degree
Current title
Academic specialization
Gender
Native Language
Departmental and institutional characteristics:
Department type
Institution region
Institution type
Experience with international collaborations
Perceived value of international and global education learning outcomes:
Knowledge goals
Values goals
Skills goals
Perceived value of international collaboration and international perspectives for teaching and research
Perceived departmental and institutional support for internationalization efforts

Two items pertain to the variable experience with international collaborations. Item 52 asks respondents to indicate whether or not they have experience with international teaching collaborations. Item 53 asks respondents to indicate whether or not they have experience with international research collaborations. Both items are found in Part V of the survey (Appendix 1).

Perceptual variables include: (a) perceived value of international and global education learning outcomes; (b) perceived value of international collaboration and international perspectives for teaching, learning, and research; and (c) perceived departmental and institutional support for internationalization efforts. The international and global education learning goals are categorized into knowledge goals, values goals, and skills goals, and are found in Part II of the survey (Appendix 1). The survey items pertaining to the perceived value of and support for international collaboration and international perspectives and the perceived support for internationalization efforts are located in Parts III and IV of the survey (Appendix 1).

Development of the Survey Instrument

I developed the survey instrument using a three-step approach, which resulted in several revisions to the initial survey. First, I wrote the initial survey items based on the problem statement and theoretical framework. Second, the survey was content validated during a pilot study. Third, additions and modifications based on the reviewers' comments further refined the survey.

Content validation composed the second step of the survey instrument's development. During this step of survey development, I conducted a pilot study undertaken at the Online Center for Global Geography Education (CGGE) workshop held during the International Geographical Congress in Glasgow, Scotland, on August 17, 2004. Twelve faculty members from six countries completed the survey and tested the face validity of the survey. The pilot study responses identified several uses of jargon or culture-specific terms, such as the

institution type options of comprehensive university, community college, liberal arts college, comprehensive university, and research institution. Also, pilot study participants recommended the use of a seven-point Likert scale rather than a five-point Likert scale, which results in higher precision within the data (Munshi 1990) and may reduce bias resulting from coarse measurement scales (Krieg 1999). The pilot study resulted in edits to Part I and Part III of the final survey as presented in Appendix 1. One section of the piloted survey asked respondents to respond to an open-ended statement regarding faculty motivation to become involved in internationalization efforts. The responses were then used to create several items found in Part IV of the final survey (Appendix 1).

The third step of the survey instrument development included additions and modifications to further refine the survey. After the pilot, international/intercultural learning competencies were added to the survey to create Part II. The knowledge, values, and skills competencies compose some of the educational goals of internationalization (Green and Olson 2003). The CGGE Project Director, as well as the Project Advisors and Module Authors received the revised survey for review. I made further revisions to the survey based on the comments of the reviewers. Two representatives from the American Council on Education also reviewed the survey and subsequent revisions were made to the survey based on their input.

Appendix 1 presents the final field-tested paper version of the content validated survey. AAG programmers created the Web-based version of the survey based on the final paper version. Respondents were given an option to print and

submit the survey by facsimile or mail, instead of accessing the Web-based survey. In order to control for non-sampled self-selected faculty, respondents were prompted to create an user identification and password, which was used to verify that respondents were part of the sampling frame. The Web-based survey was beta-tested by Texas State graduate students, as well as by members of the AAG staff, to identify potential problems from the user's perspective with regard to navigation, clarity of instructions, and to make sure data was accurately recorded for each item. Since the survey was voluntary and has a minimal possibility of harm to the participants, a Texas State Institutional Review Board representative waived this research from having to go through the approval process for research on human subjects (Northcut 2004).

Reverse-order Items

Seven items in the survey are reverse-order items, which are items that are negatively-worded. Although negatively-worded items have been found to compromise a survey's internal consistency (Schriesheim and Hill 1981; Schriesheim, Eisenbach, and Hill 1991) and reliability (Chamberlain and Cummings 1984), Barnette (2000) discusses the justified use of negatively-worded items when there may be a tendency for the respondents to generally agree with survey responses or when respondents are not highly motivated to respond accurately. Barnette (2000) cautions the use of reverse-order items unless the survey designer deems the use of these items justifiable due to the circumstances of the research. I determined reverse-ordered items to be necessary for this survey to prevent the appearance of a positive bias toward

internationalization and to prevent the tendency for agreement from fatigue due to the length of the survey.

Implementation of the Survey

The AAG supplied me with a Microsoft Excel file of 3,604 current U.S. faculty members. For purposes of this research, the target population is defined as full-time U.S. faculty who are members of the AAG. A review of the survey to eliminate emeritus, non-faculty members, and non-U.S. faculty left 2,698 faculty members remaining in the sampling frame. The sampling frame consists of the target population members from which the sample is drawn and is chosen based on the survey design (Biemer and Lyberg 2003). A sampling frame should consist of records that are current and without duplicates, however very few sampling frames meet these requirements due to the nature of data sets (Harris 1972). E-mail addresses were not present for each faculty member on the AAG list. To the extent possible, e-mail addresses of faculty members listed in the AAG's spreadsheet were located using Internet search engines to minimize coverage errors.

To determine the required sample size for a statistically representative sample, I used the following equation from Thompson (1992, 38)

$$n = N p (1 - p) / [(N - 1) d^2 / z^2 + p (1 - p)]$$

where: n = sample size

N = population size

p = population proportion

d = maximum allowable difference between the estimate and the true value

z = 1.96, for a 95% confidence interval

Since the population proportion (p) is not known, I substituted a value of 0.5 as Thompson (1992) suggests. The resulting calculation yielded a sample of 336 at the 95-and-5 level of confidence.

Anticipating a response rate of 25-30% typical of surveys (Sheehan 2001), a simple random sample of 1,668 faculty members was drawn from the sampling frame using SPSS for Windows (version 12.0), which uses pseudo-random number generating functions that ensure that each case has an equal chance of being selected (Garson 2001a). An announcement to participate in the survey was sent to the sample of 1,668 in two stages via e-mail communication in November 2004 and January 2005 (Appendix 2). A reminder to participate in the survey was sent a few weeks after the initial contact.

Challenges to the survey research design were encountered due to records that were not up-to-date or outside the target population. Several e-mail addresses were not valid, which caused the e-mail invitation to participate in the survey to be returned. To the extent possible, replacement e-mail addresses were located using Internet search engines and the e-mail invitation was re-sent. Subsequent to the announcement, responses from emeritus faculty, non-teaching faculty, and others not representative of the target population caused further eliminations in the target population.

Due to the above-mentioned challenges, and because returns from the request to participate did not meet the necessary statistical sample, paper surveys with return envelopes were sent to faculty member non-respondents in January 2005. The faculty members who returned surveys were double-checked in the

AAG's Guide to Geography Programs in North America 2003-2004 (AAG 2004)

to ensure that their listings in the guide did not present information that would exclude them from the sample. A final sampling frame of 2,579 remained after culling faculty members not in the target population. This resulted in 426 useable survey returns representing a response rate of 26%.

Treatment of the Data

The AAG programmers provided me with a Microsoft Excel file with the survey data in spreadsheet form. I manually entered information from the paper-based surveys into this spreadsheet, with special attention to reverse-coded items that were programmed into the Web-based version to score inversely to the positively worded items. Appendix 1 shows the final version of the survey with the actual values for reverse-coded items. Prior to importation of the spreadsheet data into SPSS for statistical analysis, I assigned the survey's nominal data numerical codes.

To counter item non-response, I completed missing items with plausible and consistent values through imputation as described by Sande (1982). The imputation method employed depended on the type of data missing. For items in Part I, information regarding faculty members and their departments and institutions was located using Web-based search engines. For ordinal information, averages of respondents' scores were substituted for missing scores. In Part IV, missing values were assigned to the "*I don't know*" response. This hybrid of imputation methods simplistically resolved the problem of item non-response in this survey.

Likert-scaled survey items underwent exploratory principle components analysis (PCA) for two reasons. First, PCA helps to reduce a large data-set to a more manageable number of items (Cooper 1983) by finding interrelationships within the data (Sheskin 2004). Second, PCA validates scales by demonstrating that items in one scale load on the same factor (Garson 2001b). Principal components analysis using varimax rotation with Kaiser normalization was performed on the 16 Likert-scale items in Part III and Part IV of the survey ($n = 426$). The resultant four-factor solution accounted for 77% of the variance in the data set. Upon examination of the factor pattern matrix, 2 factors were identified and 4 survey items were eliminated from analysis. The first factor, *professional practice*, contains 8 survey items related to faculty interests and abilities with international collaboration and perspectives. The second factor, *climate for internationalization*, contains 4 survey items related to faculty perceptions of the departmental and institutional support available for internationalization activities. Appendix 4 presents the appended factor pattern matrix for the four-factor solution.

To summarize, the survey measured: (a) faculty perceptions toward the goals of international and global education (14 items); (b) professional practice (8 items); and (c) climate for internationalization (4 items). Three categories form the goals of international and global education: knowledge goals (5 survey items); attitude and value goals (5 survey items); and skills goals (4 survey items). These survey items were grouped into five scales: *knowledge learning goals*; *values learning goals*; *skills learning goals*; *professional practice*; and *climate for*

internationalization. Figure 2 incorporates the five scales and their individual item numbers into the conceptual framework.

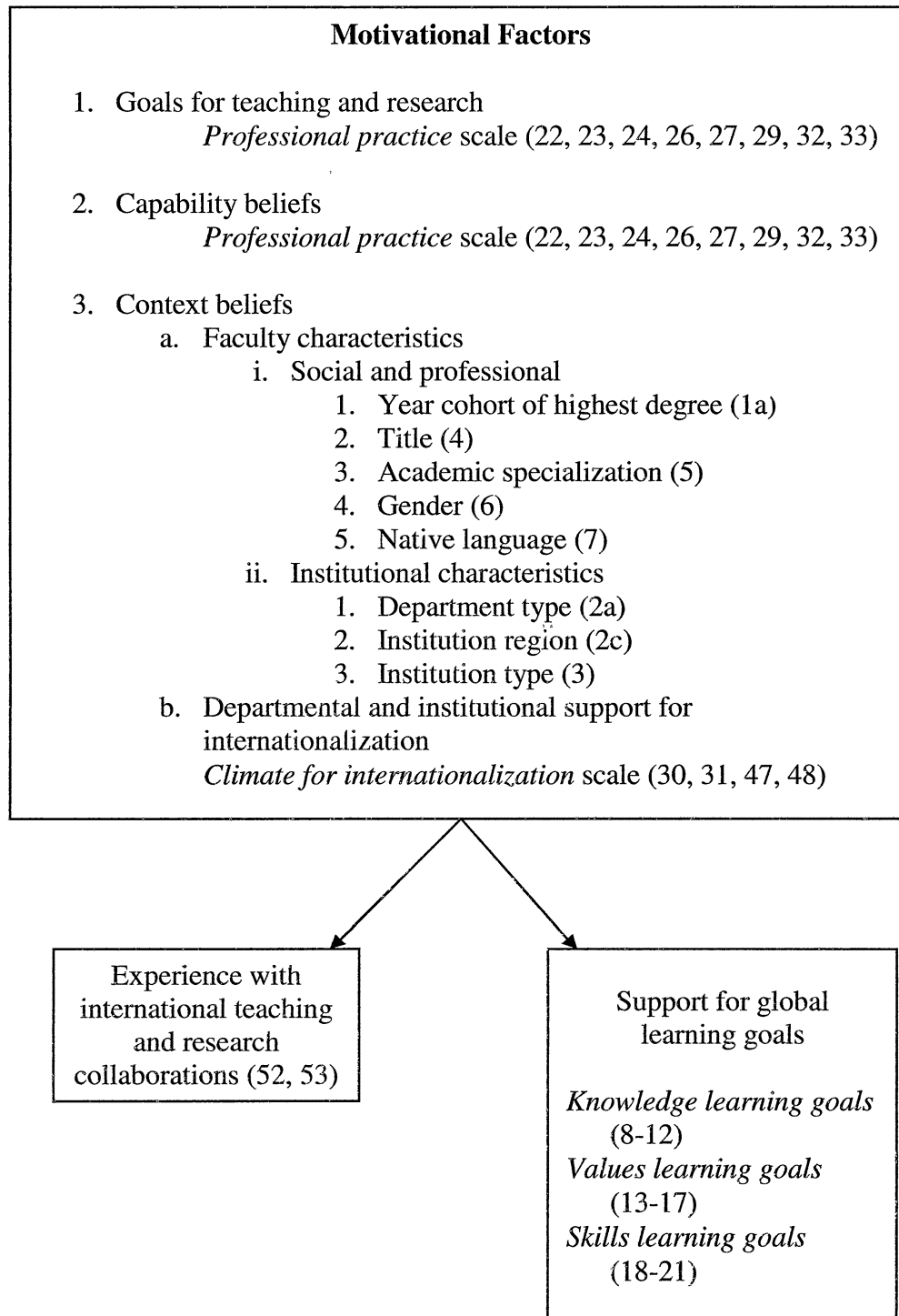


Fig. 2. Conceptual framework with scales and item numbers identified

In order to test for internal consistency reliability—the degree to which survey items measure the attribute in a consistent manner (Tashakkori and Teddlie 1998)—SPSS calculated Cronbach’s alpha coefficient on the five scales as presented in Table 2. There are varying recommended reliability levels found within the literature, below 0.6 is typically considered unacceptable, or only acceptable for preliminary research (Peterson 1992). A moderate to high level of reliability is considered with a Cronbach’s alpha coefficient of 0.8 to 0.9 (Peterson 1992).

Table 2. Cronbach’s alpha coefficient for the five scales

	Knowledge learning goals	Values learning goals	Skills learning goals	Professional practice	Climate for internationalization
Cronbach’s alpha	0.67	0.83	0.68	0.96	0.80

Design of Analysis

Two nonparametric tests for ordinal data were used to test the two hypotheses. The Mann-Whitney *U*-test compares two groups in order to test the null hypothesis that there are no differences between the two groups on a given factor (Ott, Larson, and Mendenhall 1987). The null hypothesis is rejected when the *z*-score of a two-tailed test with $\alpha = 0.05$ is less than -1.96 or greater than 1.96. The Kruskal-Wallis one-way analysis of variance by rank compares two or more groups in order to test the null hypothesis that there are no differences between the two groups on a given factor (Ott, Larson, and Mendenhall 1987). The Kruskal-Wallis *H* statistic has a distribution approximated by a chi-square distribution with degrees of freedom equaling one minus the number of groups

being tested (Ott, Larson, and Mendenhall 1987). The null hypothesis is rejected with $\alpha = 0.05$ when the H statistic for: three groups is greater than 5.99; for four groups is greater than 7.81; for five groups is greater than 9.49; for six groups is greater than 11.07; for seven groups is greater than 12.59; for eight groups is greater than 14.07; and for nine groups is greater than 15.51 (Ott, Larson, and Mendenhall 1987).

To test the first hypothesis that motivational factors will be positively related to experience with international collaborations, SPSS calculated the Mann-Whitney U statistic for the five scales based on faculty member responses to two survey items. First, I compared faculty members with a positive response to item 52, “*have you ever collaborated with international colleagues on course development or instruction?*” against faculty members with a negative response to this item. Second, I compared faculty members with a positive response to item 53, “*have you ever collaborated with international colleagues on a research project?*” against faculty members with a negative response to this item.

To test the second hypothesis, that geography faculty members’ perceptions of the value of internationalization will be related to their social and professional characteristics, as well as their departmental and institutional characteristics, SPSS calculated Mann-Whitney U statistics for variables with two groups, such as gender, and Kruskal-Wallis H statistics for variables with three or more groups, such as academic specialization. When the H statistic for variables with three or more groups indicated that there are significant differences between

the groups, I compared each group to the other groups individually using the Mann-Whitney *U* test.

Additionally, faculty members who responded positively to the items of Part IV—tactics that institutions and departments employ to support internationalization efforts—were compared to faculty members who did not respond positively to these items. To determine the relationships between the tactics employed by institutions and departments and faculty member experience with international teaching and research collaborations, I compared the frequency of observed and expected responses to Part IV using contingency tables, or cross-tabulations. I used Pearson's chi-square statistical test, which tests the null hypothesis that there is no association between variables (Kendrick 2005). Thus, significant results for the chi-square test indicate that the two variables are not randomly related.

Sources of Error

There are several noteworthy limitations and potential sources of error for my research which deems it necessary to contend with these limitations and potential sources of error. First, language poses a potential source of data collection error for non-native English speakers completing the survey. Second, responses to measures of perceptions are at risk of acquiescence bias, central tendency bias, and positivity bias (Tashakkori and Teddlie 1998). Third, Sapsford indicates that:

The problem is, most often, that we cannot tell in a given case whether the answer constitutes a valid report of feeling or belief, or is evoked as part of a rhetoric, or is influenced by the social desirability of the answer

and/or the light in which it casts the respondent, or constitutes a *change* of attitude following focused thought about the topics (Sapsford 1999, 104)

Fourth, coverage errors due to the lack of current e-mail addresses for all faculty members listed on the AAG member list are present. Fifth, non-response errors resulting from missing values adds to the overall survey error.

Chapter Summary

Chapter 4 details the research methods and begins with a discussion of research methods specific to surveys. Next, the working hypotheses and variables are addressed, followed by sections related to the development and implementation of the survey. The chapter continues with discussions of the treatment of the data and the design of analysis. The chapter ends with sources of error relevant to the research.

CHAPTER 5

DATA ANALYSIS

The data analysis is organized into four sections. First, I present the descriptive analysis of the survey respondents by social and professional characteristics and then by departmental and institutional characteristics. Second, I present the analysis for the first research hypothesis, which relates to faculty member perceptions based on their experience with international teaching and research collaborations. Third, I present the analysis for the second research hypothesis, which considers faculty member support for global learning goals. Fourth, I present the summary statistics for items in Part IV, which relate to departmental and institutional support internationalization efforts. Then, I analyze the relationship between faculty member experience with international teaching and research collaborations and departmental and institutional support for internationalization efforts.

Descriptive Analysis of Respondents

A descriptive analysis of survey respondents' social and professional characteristics is presented in Table 3. The majority of respondents reported that their academic specialization was human geography, followed by physical geography, cartography/geographic information systems (GIS)/remote sensing, and nature-society relations. Ninety-two percent of the respondents received their highest academic degree in the United States. Nearly 80% of the respondents

were male. Professors had the highest number of responses, followed by Associate Professors, Assistant Professors, Department Chairs, and Instructors/other faculty. The majority of respondents are part of the 1983 to 2005 cohort for highest degree, followed by the 1973 to 1982 cohort and the 1960 or earlier to 1972 cohort. Less than one-third of respondents have received one of their academic degrees outside the country of their birth and 20% reported that they are a native speaker of a language other than English.

Table 3. Respondents' social and professional characteristics

Social and Professional Characteristics (<i>n</i> = 426)		Academic specialization	
		Physical Geography	20.4%
		Human Geography	48.6%
		Nature-society Relations	14.1%
		Cart./Remote Sensing/GIS	16.9%
Geographic location of institution where highest degree was awarded		Current title	
United States	92.0%	Department Chair	14.1%
Canada	3.3%	Professor/Senior Lecturer	35.0%
United Kingdom	2.6%	Associate Professor/Lecturer	29.1%
Germany	0.7%	Assistant Professor/Reader	19.7%
Australia	0.5%	Instructor/Other faculty	2.1%
Austria	<0.5%		
China	<0.5%		
India	<0.5%		
New Zealand	<0.5%		
Gender		Cohorts of highest degree	
Male	78.2%	1960 (or earlier) to 1972	13.1%
Female	21.8%	1973 to 1982	19.3%
		1983 to 2005	67.6%
Native speaker of a language other than English		Received any academic qualifications or degrees outside country of birth	
No	79.8%	No	72.5%
Yes	20.2%	Yes	27.5%

Table 4 displays the departmental and institutional characteristics of the respondents. Nearly one-quarter of respondents are employed by institutions in the Midwest. The next largest proportion of respondents (19.5%) work in the Southeast, followed by the Middle Atlantic (18.1%), the West (12.0%) and the Southwest (10.6%). Less than 20% of respondents are employed by institutions in the Mountain, New England, and Great Plains regions, or Alaska and Hawaii, combined. The basis for the division of states into the regions presented in Table 4 was a study by the American Council on Education (Siaya and Hayward 2003), which used the same regions. The majority of respondents are employed by research universities, followed by liberal arts colleges, comprehensive universities, and community colleges. These institutional classifications were based on the Carnegie Foundation for the Advancement of Teaching category definitions (Carnegie Foundation 2001). The majority of respondents come from departments of geography, although a large percentage (45.8%) come from physical science, social science, or other types of departments.

Table 4. Respondents' departmental and institutional characteristics

Departmental and Institutional Characteristics (<i>n</i> = 426)		Department Type	
		Department of geography	54.2%
		Other	45.8%
Geographic location of institution ^a		Institutional type	
Great Plains	3.5%	Community College	2.6%
Middle Atlantic	18.1%	Liberal Arts College	28.6%
Midwest	23.2%	Comprehensive University	27.2%
Mountain	6.3%	Research University	41.6%
New England	6.3%		
Southeast	19.5%		
Southwest	10.6%		
West	12.0%		
Outside Continental U.S.	0.5%		

^a The Great Plains states include: ND, SD, NE, KS. The Middle Atlantic states include: DC, NY, NJ, PA, DE, MD, VA, WV. The Midwest states include: OH, IN, IL, MI, WI, MN, IO, MO. The Mountain states include: MT, ID, WY, CO, UT. The New England states include: ME, NH, VT, MA, RI, CT. The Southwest states include: NC, SC, GA, FL, AL, MI, LA, AK, TN, KY. The Southwest States include: OK, TX, NM, AZ. The West states include: WA, OR, CA, NV. States outside the continental United States include: AK, HI.

Motivational Factors for International Teaching and Research Collaborations

The first analysis tested the null hypotheses for the first aspect of internationalization under investigation:

H₀₁: There is *no difference* in faculty experience with international collaboration when considered by (a) goals for teaching and research, (b) capability beliefs, and (c) context beliefs.

The *professional practice* scale measured goals for teaching and research and capability beliefs while the *climate for internationalization* scale measured faculty members' context beliefs. I tested two components of international collaborations—teaching collaborations and research collaborations—separately. Mann-Whitney *U* statistics served as the basis for testing the first null hypothesis.

First, faculty members with a positive response to item 52, “*have you ever collaborated with international colleagues on course development or*

instruction?” were compared against faculty members with a negative response to this item. Statistically significant differences emerged on the *professional practice* scale and the *climate for internationalization* scale for item 52 as seen in Tables 5 and 6, respectively.

Table 5. Comparison of Mann-Whitney *U* test *Z*-scores^a based on experience with international teaching collaborations on the *professional practice* scale^b

Experience with international teaching collaborations: (2 groups; <i>n</i> = 426)	No experience (<i>n</i> = 218)	Experience (<i>n</i> = 104)	<i>U</i> test <i>Z</i> -score
International collaboration enhances the quality of my teaching	4.24	5.01	-3.345*
International collaboration enhances the quality of my research	4.29	4.88	-2.377
I think it is important to encourage my students to participate in study abroad programs, international internships, or international service learning	4.19	4.96	-2.996*
International perspectives are relevant for my classes	4.27	4.75	-1.783
International perspectives are relevant for my research	4.34	4.76	-1.876
International teaching collaborations are compatible with my preferred teaching methods	4.35	4.76	-2.285
I think that I have the skills necessary to engage in international collaborative teaching	4.17	4.75	-2.536
I think that I have the skills necessary to engage in international collaborative research	4.26	4.73	-1.833
<i>Professional practice</i> scale	4.26	4.83	-3.179*

^a*Z*-scores in boldface are significant at $\alpha = 0.05$; *Z*-scores in boldface marked with * are significant at $\alpha = 0.005$.

^bScale: Strongly disagree (1), Slightly Disagree (2), Disagree (3), Neutral (4), Slightly Agree (5), Agree (6), and Strongly agree (7).

Table 6. Comparison of Mann-Whitney U test Z -scores^a based on experience with international teaching collaborations on the *climate for internationalization* scale^b

Experience with international teaching collaborations: (2 groups; $n = 426$)	No experience ($n = 218$)	Experience ($n = 104$)	U test Z -score
I am aware of how geography is taught in different countries	4.15	4.43	-1.500
I stay abreast of research developments in geography in different countries through the literature, the Internet, or through communications with colleagues	4.07	4.51	-1.901
My department exhibits a high level of commitment to internationalization	3.99	4.63	-2.776*
My institution exhibits a high level of commitment to internationalization	3.98	4.62	-2.869*
<i>Climate for internationalization</i> scale	4.05	4.55	-3.001*

^a Z -scores in boldface are significant at $\alpha = 0.05$; Z -scores in boldface marked with * are significant at $\alpha = 0.005$.

^bScale: Strongly disagree (1), Slightly Disagree (2), Disagree (3), Neutral (4), Slightly Agree (5), Agree (6), and Strongly agree (7).

Respondents with international teaching collaboration experience have a higher mean score on the *professional practice* scale compared with respondents without this experience. Respondents with international teaching experience are slightly more in agreement with the statements in the *professional practice* scale than respondents without this experience. For example, respondents with international teaching experience *slightly agree* with the statement that “international collaboration enhances the quality of my teaching” while respondents without international teaching experience are more neutral to this statement. Likewise, respondents with international teaching experience have a slightly higher mean score on the *climate for internationalization* scale than those respondents without such experience. The individual U test Z -scores for the items

in the *climate for internationalization* scale suggest that faculty members with international teaching experience tend to agree with the statements that their department and institutions exhibit high levels of commitment to internationalization while respondents without this experience tend to disagree with the statements pertaining to departmental and institutional support for internationalization.

Second, faculty members with a positive response to item 53, “*have you ever collaborated with international colleagues a research project?*” were compared against faculty members with a negative response to this item. Statistically significant differences emerged on the *professional practice* scale and the *climate for internationalization* scale for item 53 as seen in Tables 7 and 8, respectively. Respondents with international research experience show slight agreement with the statements in both the *professional practice* and the *climate for internationalization* scales, whereas respondents without this experience are more neutral to the statements in these scales.

Table 7. Comparison of Mann-Whitney U test Z -scores^a based on experience with international research collaborations on the *professional practice* scale^b

Experience with international research collaborations: (2 groups; $n = 426$)	No experience ($n = 182$)	Experience ($n = 244$)	U test Z -score
International collaboration enhances the quality of my teaching	4.37	5.10	-4.080*
International collaboration enhances the quality of my research	4.21	5.21	-5.876*
I think it is important to encourage my students to participate in study abroad programs, international internships, or international service learning	4.38	5.18	-3.793*
International perspectives are relevant for my classes	4.37	5.25	-3.948*
International perspectives are relevant for my research	4.33	5.20	-4.972*
International teaching collaborations are compatible with my preferred teaching methods	4.43	4.70	-1.583
I think that I have the skills necessary to engage in international collaborative teaching	4.25	4.79	-3.161*
I think that I have the skills necessary to engage in international collaborative research	4.25	5.11	-5.652*
<i>Professional practice</i> scale	4.32	5.07	-4.791*

^a Z -scores in boldface are significant at $\alpha = 0.05$; Z -scores in boldface marked with * are significant at $\alpha = 0.005$.

^bScale: Strongly disagree (1), Slightly Disagree (2), Disagree (3), Neutral (4), Slightly Agree (5), Agree (6), and Strongly agree (7).

Table 8. Comparison of Mann-Whitney U test Z -scores^a based on experience with international research collaborations on the *climate for internationalization* scale^b

Experience with international research collaborations: (2 groups; $n = 426$)	No experience ($n = 182$)	Experience ($n = 244$)	U test Z -score
I am aware of how geography is taught in different countries	4.04	4.50	-2.815*
I stay abreast of research developments in geography in different countries through the literature, the Internet, or through communications with colleagues	4.06	4.59	-3.328*
My department exhibits a high level of commitment to internationalization	4.12	4.61	-2.623
My institution exhibits a high level of commitment to internationalization	4.21	4.63	-2.351
<i>Climate for internationalization</i> scale	4.11	4.58	-3.574*

^a Z -scores in boldface are significant at $\alpha = 0.05$; Z -scores in boldface marked with * are significant at $\alpha = 0.005$.

^bScale: Strongly disagree (1), Slightly Disagree (2), Disagree (3), Neutral (4), Slightly Agree (5), Agree (6), and Strongly agree (7).

Based on the statistically significant results for experience with international teaching and research collaborations on the *professional practice* and *climate for internationalization* scales, I rejected the null hypothesis that there is no difference in faculty experience with international collaboration when considered by the motivational factors (a) goals for teaching and research, (b) capability beliefs, and (c) context beliefs. Faculty members with experience with international collaborations do show differences with the motivational factors when compared with faculty members without international collaboration experience.

Support for Global Learning Goals

Next, I proceeded to test the null hypothesis for the second aspect of internationalization under investigation:

H₀₂: There is *no difference* in faculty support for global learning when considered by (a) goals for teaching and research, (b) capability beliefs, and (c) context beliefs.

I used five scales for this analysis. The *professional practice* scale measured goals for teaching and research and capability beliefs. Four scales measured context beliefs. The *climate for internationalization* scale measured context beliefs regarding support for internationalization efforts. Three scales measured support for global learning goals: the *knowledge learning goals* scale; the *values learning goals* scale; and the *skills learning goals* scale. To organize this analysis, I grouped faculty members based on their social, professional, departmental, and institutional characteristics. Faculty member characteristics are hypothesized to influence an individual's context beliefs. Social and professional characteristics include: year cohort of highest degree; current title; academic specialization; gender; and native language. Departmental and institutional characteristics include: department type; institution region; and institution type. The title and department type groupings produced no statistically significant relationships on the five global learning goals scales.

Results for Gender

When comparing males and females on the five scales only the tests for the *values learning goals* scale produced statistically significant results, as presented in Table 9. Female respondents perceived the values learning goals as a

very important learning goal based on what the respondents aim to accomplish in their classes, while male respondents perceived the values learning goals as *important*. Table 10 presents the *U* test Z-scores for the individual items on the *values learning goals* scale. Female respondents perceived the items on the *values learning goals* scale to be slightly more important than their male counterparts.

Table 9. Comparison of Mann-Whitney *U* test Z-scores based on gender

Gender: (2 groups; $n = 426$)	Male ($n = 333$)	Female ($n = 93$)	<i>U</i> test Z-score	Significance
Knowledge learning goals ^a	3.16	3.14	-0.222	0.824
Values learning goals ^a	2.88	3.10	-2.596	0.009
Skills learning goals ^a	2.88	3.00	-1.635	0.102
Professional practice scale ^b	4.33	4.47	-0.791	0.429
Climate for internationalization scale ^b	4.36	4.45	-0.508	0.611

^aScale: Not applicable (0), Unimportant (1), Important (2), Very Important (3), and Essential (4).

^bScale: Strongly disagree (1), Slightly Disagree (2), Disagree (3), Neutral (4), Slightly Agree (5), Agree (6), and Strongly agree (7).

Table 10. Comparison of Mann-Whitney U test Z -scores^a based on gender for the *values learning goals* scale^b

Gender: (2 groups; $n = 426$)	Male ($n = 333$)	Female ($n = 93$)	U test Z -score
Develop students' openness to learning and a positive orientation to new opportunities, ideas, and ways of thinking	3.29	3.58	-2.798*
Cultivate students' tolerance for ambiguity and unfamiliarity	2.92	3.24	-2.633
Promote students' sensitivity and respect for personal and cultural differences	2.99	3.19	-2.037
Develop students' empathy or the ability to take multiple perspectives	2.93	3.10	-1.530
Develop students' self-awareness and self-esteem about one's own identity and culture	2.23	2.41	-1.684
<i>Values learning goals</i> scale	2.88	3.10	-2.596

^a Z -scores in boldface are significant at $\alpha = 0.05$; Z -scores in boldface marked with * are significant at $\alpha = 0.005$.

^bScale: Not applicable (0), Unimportant (1), Important (2), Very Important (3), and Essential (4).

Results for Native Language

Statistically significant differences on the *values learning goals* scale and the *skills learning goals* scale were found for native English speakers and non-native English speakers as presented in Table 11. The results indicate that respondents with a native language other than English view the values and skills learning goals of global and international education to be slightly more important than respondents who are native English speakers. The U test Z -scores for the individual items in the *values learning goals* and the *skills learning goals* scales are presented in Tables 12 and 13, respectively. The results indicate that respondents who are non-native English speakers find the values and skills goals of international and global education slightly more relevant for the courses they teach than respondents who are native English speakers.

Table 11. Comparison of Mann-Whitney *U* test *Z*-scores based on native language

Native language: (2 groups; <i>n</i> = 426)	Native English speaker (<i>n</i> = 340)	Non-native English speaker (<i>n</i> = 86)	<i>U</i> test <i>Z</i> -score	Significance
Knowledge learning goals ^a	3.13	3.24	-1.305	0.192
Values learning goals ^a	2.87	3.14	-3.025	0.002
Skills learning goals ^a	2.85	3.14	-3.681	0.000
Professional practice scale ^b	4.32	4.51	-1.655	0.098
Climate scale ^b	4.38	4.39	-0.187	0.852

^aScale: Not applicable (0), Unimportant (1), Important (2), Very Important (3), and Essential (4).

^bScale: Strongly disagree (1), Slightly Disagree (2), Disagree (3), Neutral (4), Slightly Agree (5), Agree (6), and Strongly agree (7).

Table 12. Comparison of Mann-Whitney *U* test Z-scores^a based on native language for the *values learning goals* scale^b

Native language: (2 groups; <i>n</i> = 426)	Native English speaker (<i>n</i> = 340)	Non-native English speaker (<i>n</i> = 86)	<i>U</i> test Z-score
Develop students' openness to learning and a positive orientation to new opportunities, ideas, and ways of thinking	3.31	3.52	-2.174
Cultivate students' tolerance for ambiguity and unfamiliarity	2.97	3.08	-1.280
Promote students' sensitivity and respect for personal and cultural differences	2.99	3.22	-1.801
Develop students' empathy or the ability to take multiple perspectives	2.91	3.17	-2.342
Develop students' self-awareness and self-esteem about one's own identity and culture	2.17	2.67	-4.033*
<i>Values learning goals</i> scale	2.87	3.13	-3.025

^aZ-scores in boldface are significant at $\alpha = 0.05$; Z-scores in boldface marked with * are significant at $\alpha = 0.005$.

^bScale: Not applicable (0), Unimportant (1), Important (2), Very Important (3), and Essential (4).

Table 13. Comparison of Mann-Whitney U test Z-scores^a based on native language for the *skills learning goals* scale^b

Native language: (2 groups; $n = 426$)	Native English speaker ($n = 340$)	Non-native English speaker ($n = 86$)	U test Z-score
Develop students' critical thinking skills, including the ability to think creatively	3.53	3.60	-1.227
Develop students' comparative thinking skills, including the ability to integrate knowledge from different sources	3.38	3.55	-2.174
Develop students' communication skills, including the ability to use a foreign language effectively and interact with people from other culture	2.16	2.67	-3.714*
Develop students' coping and resiliency skills in unfamiliar and challenging situations	2.35	2.72	-3.153*
<i>Skills learning goals</i> scale	2.85	3.14	-3.681*

^aZ-scores in boldface are significant at $\alpha = 0.05$; Z-scores in boldface marked with * are significant at $\alpha = 0.005$.

^bScale: Not applicable (0), Unimportant (1), Important (2), Very Important (3), and Essential (4).

Results for Year Cohorts of Highest Degree

Table 14 presents the results for the Kruskal-Wallis tests based on the year cohorts that the highest degree was received. The H statistics indicate that there are statistically significant differences between the three cohorts on the *professional practice* scale. In order to determine where the differences between the groups occurred, Mann-Whitney U tests were performed for the *professional practice* scale as presented in Table 15. Faculty members who received their highest degree prior to 1972 show statistically significant differences on the *professional practice* scale than those who received their degrees in the other

cohorts, indicating changing perceptions of the value and support for internationalization. The results imply that respondents who have more recently received their highest academic degree view the value of internationalization for their teaching and research more favorably than respondents who received their highest academic degree prior to 1973.

Table 14. Comparison of Kruskal-Wallis H statistics^a for year cohort of highest degree

Year cohort of highest degree (3 groups; $n = 426$)	H statistic
Knowledge learning goals	2.412
Values learning goals	0.081
Skills learning goals	5.539
Professional practice scale	9.149
Climate for internationalization scale	1.187

^a H statistics in boldface are significant at $\alpha = 0.05$; H statistics in boldface marked with * are significant at $\alpha = 0.005$.

Table 15. Comparison of Mann-Whitney U test Z -scores^a for year cohort of highest degree on the *professional practice scale*^b

Year cohort of highest degree (3 groups; $n = 426$)	Prior to 1973 $n = 56$	1973 to 1982 $n = 82$	1983 to 2005 $n = 288$
Prior to 1973 $\mu = 3.65$	-	-2.317	-3.022*
1973 to 1982 $\mu = 4.44$	-2.317	-	-0.166
1983 to 2005 $\mu = 4.48$	-3.022*	-0.166	-

^a Z -scores in boldface are significant at $\alpha = 0.05$; Z -scores in boldface marked with * are significant at $\alpha = 0.005$.

^bScale: Strongly disagree (1), Slightly Disagree (2), Disagree (3), Neutral (4), Slightly Agree (5), Agree (6), and Strongly agree (7).

To determine the differences between the prior to 1973 cohort and the other two cohorts on the individual items of the *professional practice scale*, I compared Mann-Whitney U test Z -scores as presented in Tables 16 and 17. The

results indicate that the latter two cohorts are consistently more favorable toward the individual items on the *professional practice* scale than the prior to 1973 cohort.

Table 16. Comparison of Mann-Whitney *U* test *Z*-scores^a based on the first and second cohorts on the *professional practice* scale^b

Year cohort of highest degree: (2 groups; <i>n</i> = 426)	Prior to 1973 (<i>n</i> = 56)	1973 to 1982 (<i>n</i> = 82)	<i>U</i> test <i>Z</i> -score
International collaboration enhances the quality of my teaching	3.96	4.93	-2.473
International collaboration enhances the quality of my research	3.93	4.80	-2.036
I think it is important to encourage my students to participate in study abroad programs, international internships, or international service learning	3.77	5.02	-2.920*
International perspectives are relevant for my classes	3.71	4.98	-2.678
International perspectives are relevant for my research	3.71	4.78	-2.496
International teaching collaborations are compatible with my preferred teaching methods	4.30	4.67	-1.411
I think that I have the skills necessary to engage in international collaborative teaching	3.93	4.68	-2.096
I think that I have the skills necessary to engage in international collaborative research	3.75	4.84	-2.599
<i>Professional practice</i> scale	3.88	4.84	-2.317

^a*Z*-scores in boldface are significant at $\alpha = 0.05$; *Z*-scores in boldface marked with * are significant at $\alpha = 0.005$.

^bScale: Strongly disagree (1), Slightly Disagree (2), Disagree (3), Neutral (4), Slightly Agree (5), Agree (6), and Strongly agree (7).

Table 17. Comparison of Mann-Whitney U test Z -scores^a based on the first and third cohorts on the *professional practice scale*^b

Year cohort of highest degree: (2 groups; $n = 426$)	Prior to 1973 ($n = 56$)	1983 to 2005 ($n = 288$)	U test Z - score
International collaboration enhances the quality of my teaching	3.96	4.91	-2.903*
International collaboration enhances the quality of my research	3.93	4.94	-2.983*
I think it is important to encourage my students to participate in study abroad programs, international internships, or international service learning	3.77	4.99	-3.264*
International perspectives are relevant for my classes	3.71	5.07	-3.488*
International perspectives are relevant for my research	3.71	5.06	-3.764*
International teaching collaborations are compatible with my preferred teaching methods	4.30	4.61	-1.322
I think that I have the skills necessary to engage in international collaborative teaching	3.93	4.65	-2.343
I think that I have the skills necessary to engage in international collaborative research	3.75	4.90	-3.346*
<i>Professional practice scale</i>	3.88	4.89	-3.022*

^a Z -scores in boldface are significant at $\alpha = 0.05$; Z -scores in boldface marked with * are significant at $\alpha = 0.005$.

^bScale: Strongly disagree (1), Slightly Disagree (2), Disagree (3), Neutral (4), Slightly Agree (5), Agree (6), and Strongly agree (7).

Results for Academic Specialization

Table 18 presents the results for the Kruskal-Wallis tests for academic specialization. The H statistics indicate that there are statistically significant differences between the four academic specialization groups on the *knowledge learning goals* and *values learning goals* scales. In order to determine where the differences between the groups occurred, Mann-Whitney U tests were performed

for the *knowledge learning goals* scale as presented in Table 19. To determine the specific differences among the four academic specializations on the individual items on the *knowledge learning goals* scale, I compared the specializations individually as presented in Tables 20, 21, 22, and 23. Geographers with self-reported human geography and nature-society relations specializations perceive the knowledge goals of international and global education more positively than geographers with physical geography or cartography, GIS, and remote sensing specializations.

Table 18. Comparison of Kruskal-Wallis H statistics^a for academic specialization

Academic Specialization (4 groups; $n = 426$)	H statistic
Knowledge learning goals	52.198*
Values learning goals	28.140*
Skills learning goals	4.574
Professional practice scale	4.979
Climate scale	0.235

^a H statistics in boldface are significant at $\alpha = 0.05$; H statistics in boldface marked with * are significant at $\alpha = 0.005$.

Table 19. Comparison of Mann-Whitney *U* test Z-scores^a for academic specialization on the *knowledge learning goals scale*^b

Academic Specialization (4 groups; <i>n</i> = 426)	Physical Geography <i>n</i> = 87	Human Geography <i>n</i> = 207	Nature-society Relations <i>n</i> = 60	Cartography/Remote Sensing/GIS <i>n</i> = 72
Physical Geography $\mu = 2.91$	-	-4.891*	-4.481*	-0.720
Human Geography $\mu = 3.30$	-4.891*	-	-1.124	-5.521*
Nature-society Relations $\mu = 3.39$	-4.481*	-1.124	-	-5.001*
Cartography/Remote Sensing/GIS $\mu = 2.81$	-0.720	-5.521*	-5.001*	-

^aZ-scores in boldface are significant at $\alpha = 0.05$; Z-scores in boldface marked with * are significant at $\alpha = 0.005$.

^bScale: Not applicable (0), Unimportant (1), Important (2), Very Important (3), and Essential (4).

Table 20. Comparison of Mann-Whitney *U* test *Z*-scores^a based on physical and human geography specializations on the *knowledge learning goals scale*^b

Academic specialization: (2 groups; <i>n</i> = 426)	Physical Geography (<i>n</i> = 87)	Human Geography (<i>n</i> = 207)	<i>U</i> test <i>Z</i> -score
Improve students' knowledge of national culture and history	2.75	2.77	-0.278
Promote students' awareness of the complexity and interdependency of world events and issues	3.39	3.50	-1.129
Improve students' understanding of the historical forces that have shaped the current world system	2.60	3.29	-5.690*
Improve students' knowledge of world conditions, issues, and events	3.13	3.52	-3.946*
Improve students' understanding of the diversity of values, beliefs, ideas, and perspectives in the world	2.68	3.46	-5.441*
<i>Knowledge learning goals scale</i>	2.91	3.31	-4.891*

^a*Z*-scores in boldface are significant at $\alpha = 0.05$; *Z*-scores in boldface marked with * are significant at $\alpha = 0.005$.

^bScale: Not applicable (0), Unimportant (1), Important (2), Very Important (3), and Essential (4).

Table 21. Comparison of Mann-Whitney *U* test *Z*-scores^a based on physical geography and nature-society relations specializations on the *knowledge learning goals* scale^b

Academic specialization: (2 groups; <i>n</i> = 426)	Physical Geography (<i>n</i> = 87)	Nature- society Relations (<i>n</i> = 60)	<i>U</i> test <i>Z</i> -score
Improve students' knowledge of national culture and history	2.75	2.97	-1.520
Promote students' awareness of the complexity and interdependency of world events and issues	3.39	3.48	-1.309
Improve students' understanding of the historical forces that have shaped the current world system	2.60	3.35	-4.531*
Improve students' knowledge of world conditions, issues, and events	3.13	3.72	-4.288*
Improve students' understanding of the diversity of values, beliefs, ideas, and perspectives in the world	2.68	3.45	-3.898*
<i>Knowledge learning goals</i> scale	2.91	3.39	-4.481*

^a*Z*-scores in boldface are significant at $\alpha = 0.05$; *Z*-scores in boldface marked with * are significant at $\alpha = 0.005$.

^bScale: Not applicable (0), Unimportant (1), Important (2), Very Important (3), and Essential (4).

Table 22. Comparison of Mann-Whitney U test Z -scores^a based on cartography/remote sensing/GIS and human geography specializations on the *knowledge learning goals* scale^b

Academic specialization: (2 groups; $n = 426$)	Cartography/ Remote Sensing/GIS ($n = 72$)	Human Geography ($n = 207$)	U test Z -score
Improve students' knowledge of national culture and history	2.68	2.77	-1.075
Promote students' awareness of the complexity and interdependency of world events and issues	3.39	3.50	-0.896
Improve students' understanding of the historical forces that have shaped the current world system	2.40	3.29	-6.149*
Improve students' knowledge of world conditions, issues, and events	2.87	3.52	-4.498*
Improve students' understanding of the diversity of values, beliefs, ideas, and perspectives in the world	2.74	3.46	-5.071*
<i>Knowledge learning goals</i> scale	2.81	3.31	-5.521*

^a Z -scores in boldface are significant at $\alpha = 0.05$; Z -scores in boldface marked with * are significant at $\alpha = 0.005$.

^bScale: Not applicable (0), Unimportant (1), Important (2), Very Important (3), and Essential (4).

Table 23. Comparison of Mann-Whitney *U* test *Z*-scores^a based on cartography/remote sensing/GIS and nature-society relations specializations on the *knowledge learning goals* scale^b

Academic specialization: (2 groups; <i>n</i> = 426)	Cartography/ Remote Sensing/GIS (<i>n</i> = 72)	Nature- society Relations (<i>n</i> = 60)	<i>U</i> test <i>Z</i> -score
Improve students' knowledge of national culture and history	2.68	2.97	-2.012
Promote students' awareness of the complexity and interdependency of world events and issues	3.39	3.48	-1.123
Improve students' understanding of the historical forces that have shaped the current world system	2.40	3.35	-4.977*
Improve students' knowledge of world conditions, issues, and events	2.87	3.72	-4.627*
Improve students' understanding of the diversity of values, beliefs, ideas, and perspectives in the world	2.74	3.45	-3.729*
<i>Knowledge learning goals</i> scale	2.81	3.39	-5.001*

^a*Z*-scores in boldface are significant at $\alpha = 0.05$; *Z*-scores in boldface marked with * are significant at $\alpha = 0.005$.

^bScale: Not applicable (0), Unimportant (1), Important (2), Very Important (3), and Essential (4).

Table 24 presents the comparisons among the four academic specializations on the *values learning goals* scale. Similar to the *knowledge learning goals* scale, significant differences occurred between the human/nature-society relations and physical/cartography/remote sensing/GIS specialization groupings. To determine the individual differences among the four academic specializations on the *values learning goals* scale, I compared the specializations based on the Mann-Whitney *Z*-scores. Tables 25, 26, 27, and 28 present the results of these tests. Respondents with self-reported human geography or nature-society

relations specializations perceive the values learning goals for international and global education to be slightly more important than their counterparts who reported physical geography or cartography/remote sensing/GIS specializations.

Table 24. Comparison of Mann-Whitney *U* test Z-scores^a for academic specialization on the *values learning goals* scale^b

Academic specialization (4 groups; <i>n</i> = 426)	Physical Geography <i>n</i> = 87	Human Geography <i>n</i> = 207	Nature-society Relations <i>n</i> = 60	Cartography/Remote Sensing/GIS <i>n</i> = 72
Physical Geography $\mu = 2.65$	-	-4.324*	-3.402*	-0.559
Human Geography $\mu = 3.07$	-4.324*	-	-1.124	-3.602
Nature-society Relations $\mu = 3.09$	-3.402*	-1.124	-	-5.001*
Cartography/Remote Sensing/GIS $\mu = 2.69$	-0.559	-3.602	-5.001*	-

^aZ-scores in boldface are significant at $\alpha = 0.05$; Z-scores in boldface marked with * are significant at $\alpha = 0.005$.

^bScale: Not applicable (0), Unimportant (1), Important (2), Very Important (3), and Essential (4).

Table 25. Comparison of Mann-Whitney *U* test Z-scores^a based on physical and human geography specializations on the *values learning goals* scale^b

Academic specialization: (2 groups; <i>n</i> = 426)	Physical Geography (<i>n</i> = 87)	Human Geography (<i>n</i> = 207)	<i>U</i> test Z-score
Develop students' openness to learning and a positive orientation to new opportunities, ideas, and ways of thinking	3.20	3.41	-2.113
Cultivate students' tolerance for ambiguity and unfamiliarity	2.83	3.05	-2.479
Promote students' sensitivity and respect for personal and cultural differences	2.63	3.31	-4.888*
Develop students' empathy or the ability to take multiple perspectives	2.66	3.15	-4.104*
Develop students' self-awareness and self-esteem about one's own identity and culture	1.93	2.44	-3.717*
<i>Values learning goals</i> scale	2.65	3.07	-4.324*

^aZ-scores in boldface are significant at $\alpha = 0.05$; Z-scores in boldface marked with * are significant at $\alpha = 0.005$.

^bScale: Not applicable (0), Unimportant (1), Important (2), Very Important (3), and Essential (4).

Table 26. Comparison of Mann-Whitney *U* test Z-scores^a based on physical geography and nature-society relations specializations on the *values learning goals* scale^b

Academic specialization: (2 groups; <i>n</i> = 426)	Physical Geography (<i>n</i> = 87)	Nature- society Relations (<i>n</i> = 60)	<i>U</i> test Z-score
Develop students' openness to learning and a positive orientation to new opportunities, ideas, and ways of thinking	3.20	3.48	-2.048
Cultivate students' tolerance for ambiguity and unfamiliarity	2.83	3.18	-2.624
Promote students' sensitivity and respect for personal and cultural differences	2.63	3.18	-2.765
Develop students' empathy or the ability to take multiple perspectives	2.66	3.10	-2.593
Develop students' self-awareness and self-esteem about one's own identity and culture	1.93	2.50	-3.075*
<i>Values learning goals</i> scale	2.65	3.09	-3.402*

^aZ-scores in boldface are significant at $\alpha = 0.05$; Z-scores in boldface marked with * are significant at $\alpha = 0.005$.

^bScale: Not applicable (0), Unimportant (1), Important (2), Very Important (3), and Essential (4).

Table 27. Comparison of Mann-Whitney *U* test Z-scores^a based on cartography/remote sensing/GIS and human geography specializations on the *values learning goals* scale^b

Academic specialization: (2 groups; <i>n</i> = 426)	Cartography/ Remote Sensing/GIS (<i>n</i> = 72)	Human Geography (<i>n</i> = 207)	<i>U</i> test Z-score
Develop students' openness to learning and a positive orientation to new opportunities, ideas, and ways of thinking	3.29	3.41	-0.747
Cultivate students' tolerance for ambiguity and unfamiliarity	2.86	3.05	-1.123
Promote students' sensitivity and respect for personal and cultural differences	2.63	3.31	-4.637*
Develop students' empathy or the ability to take multiple perspectives	2.69	3.15	-3.241*
Develop students' self-awareness and self-esteem about one's own identity and culture	1.99	2.44	-2.888*
<i>Values learning goals</i> scale	2.69	3.07	-3.602*

^aZ-scores in boldface are significant at $\alpha = 0.05$; Z-scores in boldface marked with * are significant at $\alpha = 0.005$.

^bScale: Not applicable (0), Unimportant (1), Important (2), Very Important (3), and Essential (4).

Table 28. Comparison of Mann-Whitney *U* test Z-scores^a based on cartography/remote sensing/GIS and nature-society relations specializations on the *values learning goals* scale^b

Academic specialization: (2 groups; <i>n</i> = 426)	Cartography/ Remote Sensing/GIS (<i>n</i> = 72)	Nature- society Relations (<i>n</i> = 60)	<i>U</i> test Z-score
Develop students' openness to learning and a positive orientation to new opportunities, ideas, and ways of thinking	3.29	3.48	-0.940
Cultivate students' tolerance for ambiguity and unfamiliarity	2.86	3.18	-1.362
Promote students' sensitivity and respect for personal and cultural differences	2.63	3.18	-2.764
Develop students' empathy or the ability to take multiple perspectives	2.69	3.10	-2.047
Develop students' self-awareness and self-esteem about one's own identity and culture	1.99	2.50	-2.492
<i>Values learning goals</i> scale	2.69	3.09	-2.892*

^aZ-scores in boldface are significant at $\alpha = 0.05$; Z-scores in boldface marked with * are significant at $\alpha = 0.005$.

^bScale: Not applicable (0), Unimportant (1), Important (2), Very Important (3), and Essential (4).

Results for Institution Region

Table 29 displays the Kruskal-Wallis test results for institution region, which indicate statistically significant differences for the *professional practice* scale. To determine where the differences between the groups occurred, Mann-Whitney *U* tests were performed for the *professional practice* scale as presented in Table 30. The results for the Mann-Whitney *U* tests indicate that institutions in New England have statistically significance differences on the *professional practice* scale that institutions in other regions. Differences were also found for the Hawaii and Alaska region, however only two institutions compose this group,

so these results are not considered. The results suggest that faculty members in New England institutions are more favorable to participate in internationalization efforts based on their goals for teaching, their goals for research, and their self-perceived capability beliefs.

Table 29. Comparison of Kruskal-Wallis H statistics^a for institution region

Institution Region (9 groups; $n = 426$)	H statistic
Knowledge learning goals	9.600
Values learning goals	7.926
Skills learning goals	8.132
Professional practice scale	18.601
Climate scale	11.604

^a H statistics in boldface are significant at $\alpha = 0.05$; H statistics in boldface marked with * are significant at $\alpha = 0.005$.

Table 30. Comparison of Mann-Whitney *U* test Z-scores^a for institution region on the *professional practice* scale^b

Institution Region (9 groups; <i>n</i> = 426)	Great Plains (<i>n</i> = 15)	Middle Atlantic (<i>n</i> = 77)	Midwest (<i>n</i> = 77)	Mountain (<i>n</i> = 99)	New England (<i>n</i> = 27)	Southeast (<i>n</i> = 27)	Southwest (<i>n</i> = 45)	West (<i>n</i> = 51)	HI or AK (<i>n</i> = 2)
Great Plains $\mu = 4.19$	-	-1.234	-0.327	-0.644	-2.447	-1.007	-0.171	-0.842	-2.240^c
Middle Atlantic $\mu = 4.45$	-1.234	-	-1.425	-0.698	-2.439	-0.144	-1.211	-0.358	0.025^c
Midwest $\mu = 4.10$	-0.327	-1.425	-	-0.164	-3.240*	-1.241	-0.015	-1.001	0.021^c
Mountain $\mu = 4.39$	-0.644	-0.698	-0.164	-	-2.358	-0.601	-3.84	-0.289	0.022^c
New England $\mu = 5.13$	-2.447	-2.439	-3.240*	-2.358	-	-2.243	-2.917*	-2.472	0.091
Southeast $\mu = 4.41$	-1.007	-0.144	-1.241	-0.601	-2.243	-	-1.011	-0.248	0.038^c
Southwest $\mu = 4.12$	-0.171	-1.211	-0.015	-3.84	-2.917*	-1.011	-	-0.761	0.023^c
West $\mu = 4.38$	-0.842	-0.358	-1.001	-0.289	-2.472	-0.248	-0.761	-	-2.266^c
HI or AK $\mu = 6.31$	-2.240^c	0.025^c	0.021^c	0.022^c	0.091	0.038^c	0.023^c	-2.266^c	-

^aZ-scores in boldface are significant at $\alpha = 0.05$; Z-scores in boldface marked with * are significant at $\alpha = 0.005$.^bScale: Strongly disagree (1), Slightly Disagree (2), Disagree (3), Neutral (4), Slightly Agree (5), Agree (6), and Strongly agree (7).^cNot corrected for ties.

Results for Institution Type

Table 31 displays the Kruskal-Wallis test results for institution type, which indicate statistically significant differences for the *knowledge learning goals* scale. To determine where the differences between the groups occurred, Mann-Whitney *U* tests were performed for the *knowledge learning goals* scale as presented in Table 32. The results for the Mann-Whitney *U* tests indicate that faculty members in liberal arts colleges are more favorable to the inclusion knowledge learning goals of global and international education in their classes than their colleagues in comprehensive and research universities.

Table 31. Comparison of Kruskal-Wallis *H* statistics^a for institution type

Institution Type (4 groups; <i>n</i> = 426)	<i>H</i> statistic
Knowledge learning goals	9.407
Values learning goals	1.531
Skills learning goals	3.923
Professional practice scale	3.816
Climate scale	4.236

^a*H* statistics in boldface are significant at $\alpha = 0.05$; *H* statistics in boldface marked with * are significant at $\alpha = 0.005$.

Table 32. Comparison of Mann-Whitney *U* test Z-scores^a for institution type on the *knowledge learning goals* scale^b

Institution type (4 groups; <i>n</i> = 426)	Community College <i>n</i> = 11	Liberal Arts College <i>n</i> = 122	Comprehensive University <i>n</i> = 116	Research University <i>n</i> = 177
Community College $\mu = 3.16$	-	-0.495	-0.393	-0.551
Liberal Arts College $\mu = 3.33$	-0.495	-	-2.391	-2.904*
Comprehensive University $\mu = 3.10$	-0.393	-2.391	-	-0.240
Research University $\mu = 3.07$	-0.551	-2.904*	-0.240	-

^aZ-scores in boldface are significant at $\alpha = 0.05$; Z-scores in boldface marked with * are significant at $\alpha = 0.005$.

^bScale: Not applicable (0), Unimportant (1), Important (2), Very Important (3), and Essential (4).

Support for Global Learning Goals Summary

Based on the results presented above, I rejected the null hypothesis that there are no difference in faculty support for global learning when considered by (a) goals for teaching and research, (b) capability beliefs, and (c) context beliefs. Except for title and department type, there are differences in faculty member perceptions based on their social and professional characteristics. The *professional practice* scale measured goals for teaching and research and capability beliefs. The *climate for internationalization* scale measured perceived support for internationalization. The *knowledge learning goals*, *values learning goals*, and *skills learning goals* scales measured perceived value of global learning for faculty members' teaching practices. Context beliefs include faculty member perceptions on the *climate for internationalization* scale and perceptions

based on faculty member social and professional characteristics. In testing this hypothesis, the *climate for internationalization* scale produced no significant differences among respondents when grouped by faculty member characteristics.

Based on the results for the *professional practice* scale, faculty members who received their highest academic degree prior to 1973 perceived international collaboration and international perspectives as less valuable than faculty members who received their degree from 1973 to 1982 and 1983 to 2005. Also, distinctions in faculty member perceptions of the professional practice scale emerged when grouped by institution region. Faculty members employed at institutions in New England more favorably viewed the value for international collaboration and international perspectives than respondents employed in other regions.

For the *knowledge learning goals* scale, distinctions based on faculty member academic specialization and institution types were found. Faculty members with human geography or nature-society relations specializations viewed the knowledge learning goals more favorably than faculty members with physical geography or cartography/geographic information systems/remote sensing specializations. Likewise, faculty members in liberal arts colleges perceived the value for the knowledge learning goals more favorably than faculty members at comprehensive or research universities.

The analysis of the *values learning goals* scale showed perceptual differences based on gender, native language, and academic specialization. Females perceived the values learning goals to be more relevant for their classes than males. Likewise, faculty members with a native language other than English

were more favorable to incorporating the values learning goals in their courses. Faculty members with human geography and nature-society relations specializations viewed the values learning goals more favorably than faculty members with physical geography or cartography/geographic information systems/remote sensing specializations.

For perceptions related to the *skills learning goals* scale, only the analysis based on native language produced statistically significant differences. Faculty members who are non-native English speakers perceived the skills learning goals more favorably than native English speakers. In other words, non-native English speaking geographers are more likely to incorporate the skills learning goals into the goals for the courses they teach than native English speaking geographers.

Results of Tactics to Support Internationalization

Part IV of the survey lists twelve tactics that institutions and departments employ to support internationalization efforts. To the best of their knowledge, faculty members indicated whether their institution or department employed the tactic. The summary of responses to items in Part IV is displayed in Table 33. The responses with the highest percentage of positive responses are “hosts visiting scholars from other countries” and “provides travel support for faculty to attend international conferences” with 81% and 76%, respectively. The two items with the lowest percentage of positive responses are “offers honors or awards for international collaborative teaching” and “offers honors or awards for international collaborative research” with 8% and 15%, respectively.

Table 33. Summary of responses to items in Part IV

Part IV survey items (<i>n</i> = 426)	Positive response	I don't know response	Negative response
Bases faculty tenure or promotion decisions partly on the quality of international collaborative work	22%	18%	60%
Provides travel support for faculty to attend international conferences	76%	5%	19%
Provides or supports foreign language training for faculty	18%	31%	51%
Provides faculty with released time to develop and foster international projects	30%	19%	51%
Hosts visiting scholars from other countries	81%	7%	12%
Offers international field courses	71%	12%	17%
Provides funding for international teaching projects	34%	31%	35%
Offers honors or awards for international collaborative research	15%	33%	52%
Designates funding for international research projects	30%	23%	47%
Offers honors or awards for international collaborative teaching	8%	31%	61%
Incorporates an international dimension into the mission of the institution	68%	13%	19%
Encourages the adoption of new teaching practices or materials to internationalize the curriculum	54%	21%	25%

To determine the relationships between the tactics employed by institutions and departments and faculty member experience with international teaching and research collaborations, I compared the frequency of observed and expected responses to Part IV using contingency tables, or cross-tabulations. I used Pearson's chi-square statistical test, which tests the null hypothesis that there is no association between variables (Kendrick 2005). Thus, significant results for

the chi-square test indicate that the two variables are not randomly related. For experience with international teaching collaborations, three tactics produced results with a significantly higher observed value than the expected value. Likewise, three tactics produced results with an observed value significantly higher than the expected value for experience with international research collaborations. Only the cross-tabulations with significant chi-square statistics are reported below.

The cross-tabulation, or contingency table, for item 52 “have you ever collaborated with international colleagues on course development or instruction” and item 34 “bases faculty tenure or promotion decisions partly on the quality of international collaborative work” is presented in Table 34. The results indicate that among faculty with experience with international teaching collaborations, more respondents than expected reported that their institution or department considers this experience in tenure or promotion decisions.

Table 34. Observed and expected frequencies for experience with international teaching collaborations and item 34

		Bases faculty tenure or promotion decisions partly on the quality of international collaborative work			
		<i>No, or I don't know</i>		<i>Yes</i>	
		Observed	Expected	Observed	Expected
Have you ever collaborated with international colleagues on course development or instruction	No	261	250.9	61	71.1
	Yes	71	81.1	33	22.9
DF=1; $\chi^2 = 7.474$; $p = 0.006$					

The cross-tabulation for experience with international teaching collaborations and item 34 “offers international field courses” is presented in Table 35. The results indicate that among faculty with experience with international teaching collaborations, more respondents than expected reported that their institution or department offers international field courses. In other words, faculty members with international teaching collaboration experience are more likely to be affiliated with departments and institutions who offer international field courses.

Table 35. Observed and expected frequencies for experience with international teaching collaborations and item 39

		Offers international field courses			
		<i>No, or I don't know</i>		<i>Yes</i>	
		Observed	Expected	Observed	Expected
Have you ever collaborated with international colleagues on course development or instruction	No	103	93.7	219	228.3
	Yes	21	30.3	83	73.7
DF=1; $\chi^2 = 5.300$; $p = 0.021$					

The cross-tabulation for experience with international teaching collaborations and item 45 “encourages the adoption of new teaching practices or materials to internationalize the curriculum” is presented in Table 36. The results indicate that among faculty with experience with international teaching collaborations, more respondents than expected reported that their institution or

department encourages the adoption of new teaching practices or materials to internationalize the curriculum.

Table 36. Observed and expected frequencies for experience with international teaching collaborations and item 45

		Encourages the adoption of new teaching practices or materials to internationalize the curriculum			
		<i>No, or I don't know</i>		<i>Yes</i>	
		Observed	Expected	Observed	Expected
Have you ever collaborated with international colleagues on course development or instruction	No	157	148.2	165	173.8
	Yes	39	47.8	65	56.2
DF=1; $\chi^2 = 4.011$; $p = 0.045$					

Three separate tactics encourage faculty members to participate in international research collaborations. The cross-tabulation for experience with international research collaborations and item 38 “hosts visiting scholars from other countries” is presented in Table 37. The results indicate that among faculty with experience with international research collaborations, more respondents than expected reported that their institution or department hosts visiting scholars from other countries.

Table 37. Observed and expected frequencies for experience with international research collaborations and item 38

		Hosts visiting scholars from other countries			
		<i>No, or I don't know</i>		<i>Yes</i>	
		Observed	Expected	Observed	Expected
Have you ever collaborated with international colleagues on a research project	No	44	34.6	138	147.4
	Yes	37	46.4	207	197.6
DF=1; $\chi^2 = 5.498$; $p = 0.019$					

The cross-tabulation for experience with international research collaborations and item 41 “offers honors or awards for international collaborative research” is presented in Table 38. The results indicate that among faculty with experience with international research collaborations, more respondents than expected reported that their institution or department offers honors or awards for international collaborative research.

Table 38. Observed and expected frequencies for experience with international research collaborations and item 41

		Offers honors or awards for international collaborative research			
		<i>No, or I don't know</i>		<i>Yes</i>	
		Observed	Expected	Observed	Expected
Have you ever collaborated with international colleagues on a research project	No	166	154.2	16	27.8
	Yes	195	206.8	49	37.2
DF=1; $\chi^2 = 10.278$; $p = 0.001$					

The cross-tabulation for experience with international research collaborations and item 42 “designates funding for international research projects” is presented in Table 39. The results indicate that among faculty with experience with international research collaborations, more respondents than expected reported that their institution or department designates funding for international research projects.

Table 39. Observed and expected frequencies for experience with international research collaborations and item 42

		Designates funding for international research projects			
		<i>No, or I don't know</i>		<i>Yes</i>	
		Observed	Expected	Observed	Expected
Have you ever collaborated with international colleagues on a research project	No	137	126.9	45	55.1
	Yes	160	170.1	84	73.9
DF=1; $\chi^2 = 4.647$; $p = 0.031$					

Additionally, an open-ended item in Part IV provided respondents an opportunity to identify additional tactics that departments and institutions utilize to help faculty become engaged in internationalization efforts. Of the 426 respondents, 59 completed this item and the responses represent four broad categories, two of which contain internationalization strategies. These responses highlight the varied strategies employed by departments and institutions as well as criticism of the lack of departmental and institutional support for internationalization.

The first category of responses indicate ways in which institutions and departments support students, including: encouragement to participate in study abroad programs; overseas campuses; international field course offerings; and the promotion of international research and service learning for undergraduate and graduate students. Support for faculty to teach overseas as part of their regular teaching assignment and summer international faculty trips abroad are two ways

that departments and institutions support faculty to become engaged in internationalization efforts.

The second category of responses represent various other tactics employed by institutions and departments, including: a campus-wide commitment to border studies; international program office that helps faculty create exchange programs; support for Fulbright exchanges; cooperation between the department and international studies department; offers internationally-oriented majors; supports student organization with international service mission; offers coursework related to internationalization, such as Global Management; virtual seminars; and collaborates with area studies programs via joint appointments and integrated curricula. Respondents also indicated that their institutions or departments are working on initiatives for internationally-focused majors, study abroad programs, and international field courses.

The third and largest category of responses did not indicate tactics that departments and institutions use, rather the responses express financial and other concerns related to internationalization efforts. Several faculty members commented that their institution does not financially support its own international mission. Others indicated that internationalization activities are supported based on the strength and quality of the proposal and the availability of funds. Respondents remarked that there are increasingly limited resources to support internationalization programs and little support for faculty-led internationalization initiatives. One respondent commented that international research is supported,

whereas international teaching is not. Another noted that graduate assistantships are not offered to foreign students.

The fourth category of responses come from respondents who indicated that they were unable to answer the items in Part IV to their satisfaction either because they were starting a new position, and therefore they were not familiar with internationalization efforts, or because they disagreed with the format of the items and would have preferred the items to have reported departmental and institutional support separately.

Results Summary

The results indicate significant relationships between faculty members with international collaboration experience and those without this experience giving strong support to the first hypothesis that motivational factors (goals for teaching, goals for research, capability beliefs, and context beliefs) will be positively related to experience with internationalization. Specifically, respondents with international teaching collaboration experiences have statistically significant differences than respondents without these experiences on the *professional practice* and *climate for internationalization* scales.

With regard to the second hypothesis, that geography faculty members' perceptions of the value of internationalization will be related to their social, professional, departmental, and institutional characteristics, three of the five variables related to social and professional characteristics and two of the three variables related to departmental and institutional characteristics produced

statistically significant results. Two variables, title and department type, produced no statistically significant relationships with the five scales.

In Part IV of the survey, faculty members reported, to the best of their knowledge, the tactics that their institutions and departments employ to support internationalization efforts. The results indicate that many institutions and departments utilize the tactics listed in Part IV of the survey, however open-ended responses indicated that financial support for these tactics are limited. Basing tenure or promotion decisions partly on the quality of international collaborative work, offering international field courses, and encouraging the adoption of new teaching practices or materials to internationalize the curriculum are three tactics that departments and institutions employ that are associated with international teaching collaborations. The tactics departments and institutions employ that are associated with international research collaborations are hosting visiting scholars from other countries, offering honors or awards for international collaborative research, and designating funding for international research projects.

Chapter Summary

Chapter 4 details the analysis of data and begins with a discussion of the descriptive analysis of survey respondents. Next, I present the analyses related to the testing of the null hypotheses. Then, I present a summary of the tactics institutions and departments employ to support internationalization efforts. The chapter ends with analyses pertaining to faculty member experiences with international collaborations and the tactics that departments and institutions use to support internationalization efforts.

CHAPTER 6

DISCUSSION AND RECOMMENDATIONS

Synthesis of Findings

The findings support (a) the hypothesis that motivational factors are positively related to experience with international teaching and research collaborations and (b) the hypothesis that motivational factors will be positively related to support for global learning goals, which confirms the usefulness of motivational systems theory in understanding faculty member practices in higher education. By having the self-perceived skills necessary for international collaborative work and perceptions of a work environment supportive of internationalization, willing geography faculty members are able to pursue their professional goal to collaborate internationally. Intrinsic and extrinsic motivation influences faculty members' decisions to undertake international collaborations.

Overall, respondents support the knowledge, values, and skills learning goals for global education. Geography faculty members are more favorable to incorporate global learning goals into their teaching based on their personal teaching and research goals, their self-perceived skills, their perceptions of a supportive environment for internationalization, and their individual context beliefs associated with their social, professional, and institutional characteristics. While there are no other studies of geography faculty to enhance the

understanding of the relationship between faculty support for global learning goals, the literature offers some explanation for the results of this study.

Differences in perceptions on the *professional practice* scale among the cohort of faculty members who received their highest academic degree prior to 1972 and those who received their degree between 1973 and 1982, and faculty members who received their degree between 1983 and 2005 are apparent. The cohorts, established by Somers et al. (1998), signify the “Academic boomers,” the academic recession hires, and faculty trained in the latest paradigms. The distinction in perceptions with regard to the *professional practice* scale demonstrates a shift in thinking in recent decades with regard to the benefit of international activities for teaching and research.

Distinctions between geographers with physical/cartography/GIS/remote sensing specializations and human/nature-society specializations are apparent in terms of the perceived value of learning goals of international and global education. This finding is consistent with research carried out by Liverman (1999) in which faculty members in the human-environment perspective incorporate the study of global change and international policies into the postsecondary curriculum. Global learning goals are perceived to be more relevant for geography courses taught by human and nature-society relations faculty perhaps due to the importance of intercultural understanding within these specialties.

While there is no ready explanation why females view the values learning goals of international and global education more positively than males, one study of postgraduate students conducted at an institution in New Zealand may provide

insight into this difference. Scheyvens, Wild, and Overton (2003) found that non-Western women postgraduate students with families experienced the most acute difficulties when attempting to establish themselves in a Western university. Problems with the English language and the difficulties of adapting to a different culture of learning were reported as the biggest impediments for both non-Western males and females in the study (Scheyvens, Wild, and Overton 2003). Perhaps the values goals of international and global education address these difficulties. For instance, one values learning goal is to “develop students’ openness to learning and a positive orientation to new opportunities, ideas and ways of thinking” (Green and Olson 2003). To explain the gender difference, it may prove worthwhile to consider that a slightly higher percentage of female survey respondents (29%) are non-native English speakers than males (24%). Similar to the results in gender, the values and skills learning goals are relevant to the educational experiences of non-Native English speakers.

Another characteristic, institution type, is associated with faculty members’ perceptions of the value of the knowledge learning goals of international and global education for geography instruction. Institution type alone did not provide for clear differences in the internationalization perspectives of the respondents. Respondents at liberal arts colleges are more favorable toward incorporating the knowledge learning goals in their courses than their colleagues at comprehensive and research universities, which reflects the institutional curricula differences.

Though a majority of institutions incorporate an international dimension into their respective mission statements, respondents often felt that funding and rewarding internationalization efforts were not high priorities at their institutions. Organizational support can be a strong motivator for faculty and Lee (2001) argues that positive faculty perceptions of supportive organizations is directly linked with job satisfaction. One way for institutions to provide the needed support for internationalization is to provide the necessary funding and rewards to substantiate the international dimension of their mission statements.

Discussion

The notion that differences, rather than similarities, distinguish individual faculty members (Somers et al. 1998) creates challenges to making broad generalizations about faculty members' activities in terms of internationalization. To increase the understanding of geography faculty members' perceptions toward internationalization, special attention needs to be paid to the scales in which faculty members operate. Goodchild and Janelle (1998, 7) note that "membership in a department becomes analogous to membership in many social organizations where the criterion for belonging is relatively weak and irrelevant." This realization helps to explain why the department type factor did not produce statistically significant results in relation to the five scales investigated in this study.

In terms of the discipline of geography and its support for internationalization efforts, it may prove worthwhile to consider the *value of geography* to support international and global education learning goals and the

values of geography to support efforts to internationalize higher education. The Rediscovering Geography Committee (1997) points to the value of geography's contribution to the understanding of the interdependencies among scales from local to global levels. The Association of American Geographer's 2005 President proposed that geographers can be key contributors to the understanding global transformations if attention to these changes is paid in research and teaching, and if learning from the Global South is incorporated into American geography (Lawson 2005). Certainly, the value of geography for understanding the connections between domestic and foreign affairs is not a recent concept in the discipline. Harris identifies three key attitudes for inclusion in geography courses:

1. Appreciation of the diversity of the world in physical elements and resources, in cultural evolution, in economic development, in political organization, and in their combination in specific regions.
2. Sympathy for and understanding of the diverse cultures of the world, each with its particular achievements, viewpoints and problems. Realization that each has its own integrity and that no one is odd merely because different.
3. Recognition that the regions of the world are linked together by economic ties of trade and aid; by political ties of the association of countries in international and regional organizations; by cultural ties in art, music, and literature; by scientific ties in education and research; and by common dangers of disease, war, famine, poverty, and catastrophes (Harris 1965, 26)

Harris' (1965) desirable attitudes for geography classes are similar to the global and international education learning goals articulated and widely embraced by practitioners of global education. While faculty members in all geographic specializations generally have positive views of the global learning goals, faculty members in the human geography and nature-society relations specializations

have more positive views of these goals than faculty members in the physical geography or cartography/geographic information systems/remote sensing specializations.

Perhaps the discipline's underlying values contribute to this possible schism in postsecondary geography. Noting that values are best understood within a societal context, and that individual scholars have a system of values that drives his or her academic functions, Buttimer (1974) raises interesting questions with regard to *values in geography*. Perhaps the most important point is that those in the discipline should consider the impact of their particular set of values on their actions within the discipline (Buttimer 1974). Buttimer identifies the contradictions that geographers face when she writes:

I may, for example, denounce the values of the military-industrial complex, and the ecological havoc wreaked by large-scale industry, yet may accept grants for research on economic development which may ultimately facilitate the progress of these same processes (Buttimer 1974, 7)

This admission begins to unfold the negotiable and incongruent values within the discipline as portrayed by an individual faculty member.

The international and global education learning goals contain not only international competencies but also intercultural ones. Considering the underrepresentation of women and so-called minorities (Rediscovering Geography Committee 1997) in the discipline, the results of this research provide insights into the *values in geography*. Buttimer (1974, 11) asks "what values are being, or will be questioned, when these so-called minorities enter the profession?" This question, and others, are important overarching considerations

in contextualizing the relevance of the international and global education goals for the discipline of geography. In part, faculty member perceptions reflect the values in geography.

Policy Implications of this Research

There are two policy implications based on this research. Smart and McLaughlin (1978) warn against generalizing the findings from an analysis of one discipline to other discipline due to the various disciplinary cultures and approaches to rewards that are encountered. Therefore, the recommendations to follow are specific for improving geography faculty member participation in internationalization activities. To support international teaching collaborations, departments and institutions should consider: (a) basing faculty tenure or promotion decisions partly on the quality of international collaborative work; (b) offering international field courses; and (c) encouraging the adoption of new teaching practices or materials to internationalize the curriculum. To facilitate international research collaborations, departments and institutions should consider: (a) hosting visiting scholars from other countries; (b) offering honors or awards for international collaborative research; and (c) designating funding for international research projects.

Based on these findings, the first policy recommendation is to modify the reward and incentive structures for geographers at the departmental and institutional levels to reflect the growing importance of international and intercultural perspectives for teaching and learning. The second recommendation

is to increase support for international collaborative teaching and research in order to firmly entrench international perspectives into the discipline of geography.

The first recommendation deals with the need to shift faculty reward structures to reflect the current realities of higher education. This research found that context beliefs such as perceived support from institutions and departments are related to faculty members' experience with internationalization. In the academic workplace, promotion policies dictate which activities survive (Tuckman and Hagemann 1976). Further, "faculty member perceptions' of how their institutions define and evaluate [their] roles affects how they do their work" (Colbeck 2002, 44). Farquhar (2002) proposes that in recent decades research demands on professors have escalated due to forces internal and external to the university while globalization and information technologies have heightened the need for internationalization of scholarship. It seems that faculty reward structures have not shifted with the changing needs of higher education.

The literature offers relevant insights into the transformation of current reward structures to more pertinent ones. A sophisticated understanding of faculty roles indicates that teaching, research, and service functions are not mutually exclusive (Colbeck 2002). Jenkins (2000) recognizes the need for geographers to design courses to ensure that students benefit from faculty research. Further, faculty members at different institutional types have different opportunities to integrate teaching and research (Colbeck 1998).

The second recommendation considers the importance of international faculty collaboration in teaching and research. This research found that the

motivational factors related to goals for teaching and research is positively related to experience with internationalization, which is consistent with earlier work by Bohlen and Stiles (1998). The Rediscovering Geography Committee (1997) also identifies the need to recognize the value of collaborative research to the discipline of geography. By increasing support for international collaborations through monetary awards and other methods, faculty are more likely to consider the value of international perspectives for their teaching and research.

Supporting Geography Faculty to Internationalize

Beyond changing academic policies, support for international disciplinary collaborations comes from many sources—colleagues, departments, institutions, as well as professional associations. Each entity plays an important role to expand international collaborations in postsecondary geography. Colleagues can work to internationalize their research and teaching by inviting international scholars to guest lecture in their courses, by evaluating their underlying values' affect on teaching practices, and by becoming involved with international organizations to facilitate international research projects.

Departments and institutions can measure the climate for internationalization specific to their situations and make an action plan to improve their support for faculty and student efforts to internationalize. Relationships with study abroad programs, international studies programs, and international student organizations may escalate geography departments' internationalization process. Additional support for international geography field courses may be considered as one way to facilitate internationalization. Also, departments and institutions can

provide faculty professional development workshops and seminars to encourage their efforts to internationalize.

Professional associations can serve as networks for supporting faculty initiatives and provide the infrastructure to undertake international collaborations. The International Network for Learning and Teaching Geography in Higher Education (INLT) and the Online Center for Global Geography Education (CGGE) are two such networks. Due to the scale of international projects, professional associations and networks play a critical role in bringing together geography colleagues from different countries.

Future Research Suggestions

Future research is needed to determine perceptual differences between U.S. geography faculty members and geography faculty members in other nations with regard to internationalization. Research to determine differences between geography faculty members' perceptions and those in other disciplines would also enhance the understanding of the relationship between internationalization and geography. Two additional research needs exist: assessing the learning outcomes of international and global education in geography; and qualitative studies to support the primarily quantitative findings of this study.

In a discussion of needed research in relation to the use of instructional technologies, McAlpine and Gandell (2003) identify the need for research that begins with instructor's thinking prior to implementation of a new instructional method and ends with the evaluation of the impact of this method on student learning. I make a similar case for the international and global education learning

goals for the discipline of geography. This research measured faculty member perceptions toward the international and global education learning goals and now research related to their impact on student achievement is needed. With the realization that many faculty members do not receive formal training in teaching (Hativa, Barak, and Simhi 2001; Colbeck, Cabrera, and Marine 2002), research regarding student learning outcomes is greatly needed to enhance the instructional capabilities of geography faculty.

Further, Smart and Ethington offer the following recommendation:

Regardless of institutional setting, academic disciplines vary in their emphases on different undergraduate education goals: those who seek to improve faculty teaching effectiveness on individual campuses should not seek global solutions or utilize uniform practices. Rather, they should work within disciplinary clusters and focus on pedagogical techniques that are most effective for the outcomes most closely relate to the specific goals of the respective disciplinary clusters and the nature of the content being taught (Smart and Ethington 1995, 56)

In order to support the quantitative findings, future research should take a more qualitative approach to understanding faculty perceptions of internationalization in postsecondary geography. Faculty interviews are needed to: (a) corroborate the findings of this study; (b) enhance the understanding of the motivational factors that impact faculty member practices; and (c) develop an understanding of what makes international collaborations successful.

Conclusions

The research goal was to investigate how postsecondary geography faculty in the United States perceive the importance of internationalization for their teaching and research. Specifically, I explored geography faculty member practices and perceptions with regard to two components of internationalization—

international collaborations and internationalized curriculum. First, I investigated the motivational factors that influence faculty members' participation in international teaching and research collaborations in order to understand why some faculty members engage in international collaborative activities while others do not. Second, I measured faculty member perceptions of the value of global learning goals for the courses they teach to determine the level that undergraduate geography curricula in the United States are internationalized. The study also considered the effects of departmental and institutional support for internationalization on faculty member practices and perceptions.

The method of data collection was a survey instrument that contained five parts: (a) Part I consisted of items related to faculty member characteristics; (b) Part II contained Likert-scaled items based on international and global education learning goals; (c) Part III contained Likert-scaled items pertaining to the value of internationalization for teaching and research; (d) Part IV included items related to departmental and institutional support for internationalization efforts and (e) Part V consisted of open-ended items related to experience with internationalization. The target population included full-time U.S. geography faculty and the survey produced 426 valid survey returns from the target population, representing a response rate of 26%.

The findings provide support for (a) the hypothesis that motivational factors are positively related to experience with international teaching and research collaborations and (b) the hypothesis that motivational factors are positively related to support for global learning goals. While the tactics that

departments and institutions utilize to support internationalization vary greatly, certain tactics are associated with faculty participation in international collaborative work. Basing tenure or promotion decisions partly on the quality of international collaborative work, offering international field courses, and encouraging the adoption of new teaching practices or materials to internationalize the curriculum are three tactics that departments and institutions employ that are associated with international teaching collaborations. The tactics departments and institutions employ that are associated with international research collaborations are hosting visiting scholars from other countries, offering honors or awards for international collaborative research, and designating funding for international research projects.

Chapter Summary

The final chapter of the thesis synthesizes the findings with relevant literature in terms of the discipline of geography. Next, I present a discussion of the connection between the findings and the *value of geography* and the *values of geography*. Then, recommendations for departments and institutions based on the findings are offered. The chapter closes with suggestions of future research that will enhance the understanding of geography's relationship with internationalization at higher education institutions across the globe.

APPENDIX 1

SURVEY INSTRUMENT

INTERNATIONALIZING GEOGRAPHY IN HIGHER EDUCATION

This survey is designed to measure how geography faculty members perceive internationalization in higher education and the value of international collaboration for geography education and research. For the purposes of this study, internationalization is defined as the process of integrating an international/intercultural dimension into the teaching, research, and service functions of the institution (Knight and de Wit 1995, 17). Examples of internationalization include study abroad programs, faculty exchange programs, and international collaborative teaching and research projects. The term "faculty" refers to the academic staff (professors) of a department.

Part I (7 items). Please describe your social and professional characteristics.

1. Indicate the country of the institution where you received your highest academic qualification or degree:

1a. In what year was your highest academic qualification or degree awarded?

1b. Have you received any academic qualifications or degrees outside the country of your birth? ☐ Yes ☐ No If yes, where:

2. What is your current professional affiliation:

Department (for example, Department or Faculty of Geography):

Institution:

Location:

3. What is the highest degree offered in your department or program?

☐ 2-year certificate/Associate degree or equivalent

☐ BA/BS/Bsci or equivalent

☐ MA/MS/MSc/MPhil/MRes or equivalent

☐ Ph.D. or equivalent

☐ Other(*please specify*):

4. What is your current title/position:

☐ Fellow

☐ Assistant Professor

☐ Lecturer

☐ Professor

☐ Senior Lecturer

☐ Department Chair

☐ Reader

☐ Other (*please specify*):

☐ Associate Professor

5. Your academic specialization is primarily in the realm of (*please check only one*):

☐ Physical geography

☐ Nature-society relations

☐ Human geography

☐ Cartography/Remote Sensing/GIS

6. What is your gender? ☐ Male ☐ Female

7. Are you a native speaker of a language other than English? ☐ Yes ☐ No

Please continue to the next page.

Part II (14 items). The statements below describe some of the educational goals of international and global education. Please rate the importance of each goal by circling the number that best describes what you aim to accomplish in your classes:

- (1) Essential A goal you *always/nearly always* try to achieve.
 (2) Very Important A goal you *very often* try to achieve.
 (3) Important A goal you *sometimes* try to achieve.
 (4) Unimportant A goal you *rarely* try to achieve.
 (5) Not applicable A goal you *never* try to achieve.

There are no "right" or "wrong" answers; only personally accurate or inaccurate ones.				
Essential	Very Important	Important	Unimportant	Not applicable
4	3	2	1	0

8. Improve students' knowledge of national culture and history.

4 3 2 1 0

9. Promote students' awareness of the complexity and interdependency of world events and issues.

4 3 2 1 0

10. Improve students' understanding of the historical forces that have shaped the current world system.

4 3 2 1 0

11. Improve students' knowledge of world conditions, issues, and events.

4 3 2 1 0

12. Improve students' understanding of the diversity of values, beliefs, ideas, and perspectives in the world.

4 3 2 1 0

13. Develop students' openness to learning and a positive orientation to new opportunities, ideas, and ways of thinking.

4 3 2 1 0

14. Cultivate students' tolerance for ambiguity and unfamiliarity.

4 3 2 1 0

15. Promote students' sensitivity and respect for personal and cultural differences.

4 3 2 1 0

16. Develop students' empathy or the ability to take multiple perspectives.

4 3 2 1 0

Please continue Part II on the next page.

Essential	Very Important	Important	Unimportant	Not applicable
4	3	2	1	0

17. Develop students' self-awareness and self-esteem about one's own identity and culture.

4 3 2 1 0

18. Develop students' critical thinking skills, including the ability to think creatively.

4 3 2 1 0

19. Develop students' comparative thinking skills, including the ability to integrate knowledge from different sources.

4 3 2 1 0

20. Develop students' communication skills, including the ability to use a foreign language effectively and interact with people from other cultures.

4 3 2 1 0

21. Develop students' coping and resiliency skills in unfamiliar and challenging situations.

4 3 2 1 0

Part III (12 items). Below are statements that might be used to describe how faculty members perceive the value of international collaboration and perspectives for teaching, learning, and research. Please indicate your level of agreement or disagreement with the statements using this scale:

Strongly Agree	Agree	Slightly Agree	No Opinion/ Don't know	Slightly Disagree	Disagree	Strongly Disagree
----------------	-------	----------------	---------------------------	-------------------	----------	-------------------

22. International collaboration enhances the quality of my teaching.

7 6 5 4 3 2 1

23. International collaboration enhances the quality of my research.

7 6 5 4 3 2 1

24. I think it is important to encourage my students to participate in study abroad programs, international internships, or international service learning.

7 6 5 4 3 2 1

25. I do not have time to pursue international collaborations.

Please continue Part III on the next page.

Strongly Agree	Agree	Slightly Agree	No Opinion/ Don't know	Slightly Disagree	Disagree	Strongly Disagree
----------------	-------	----------------	---------------------------	-------------------	----------	-------------------

26. International perspectives are not relevant for my classes.

7 6 5 4 3 2 1

27. International perspectives are not relevant for my research.

7 6 5 4 3 2 1

28. International collaborative research is difficult for me to achieve.

7 6 5 4 3 2 1

29. International teaching collaborations are not compatible with my preferred teaching methods.

7 6 5 4 3 2 1

30. I am aware of how geography is taught in different countries.

7 6 5 4 3 2 1

31. I stay abreast of research developments in geography in different countries through the literature, the Internet, or through communications with colleagues.

7 6 5 4 3 2 1

32. I think that I have the skills necessary to engage in international collaborative teaching.

7 6 5 4 3 2 1

33. I think that I have the skills necessary to engage in international collaborative research.

7 6 5 4 3 2 1

Part IV (17 items). Below are several statements that describe some of the tactics that academic departments and institutions use to help faculty become engaged in internationalization efforts. To the best of your knowledge, please indicate the strategies that are or are not used by your department or institution for this purpose.

34. Bases faculty tenure or promotion decisions partly on the quality of

- ☐ Yes, my department or institution does this.
- ☐ I don't know if my department or institution does this.
- ☐ Neither my department nor institution does this.

35. Provides travel support for faculty to attend international conferences.

- ☐ Yes, my department or institution does this.
- ☐ I don't know if my department or institution does this.
- ☐ Neither my department nor institution does this.

Please continue Part IV on the next page.

36. Provides or supports foreign language training for faculty.
___ Yes, my department or institution does this.
___ I don't know if my department or institution does this.
___ Neither my department nor institution does this.
37. Provides faculty with released time to develop and foster international projects.
___ Yes, my department or institution does this.
___ I don't know if my department or institution does this.
___ Neither my department nor institution does this.
38. Hosts visiting scholars from other countries.
___ Yes, my department or institution does this.
___ I don't know if my department or institution does this.
___ Neither my department nor institution does this.
39. Offers international field courses.
___ Yes, my department or institution does this.
___ I don't know if my department or institution does this.
___ Neither my department nor institution does this.
40. Provides funding for international teaching projects.
___ Yes, my department or institution does this.
___ I don't know if my department or institution does this.
___ Neither my department nor institution does this.
41. Offers honors or awards for international collaborative research.
___ Yes, my department or institution does this.
___ I don't know if my department or institution does this.
___ Neither my department nor institution does this.
42. Designates funding for international research projects.
___ Yes, my department or institution does this.
___ I don't know if my department or institution does this.
___ Neither my department nor institution does this.
43. Offers honors or awards for international collaborative teaching.
___ Yes, my department or institution does this.
___ I don't know if my department or institution does this.
___ Neither my department nor institution does this.

Please continue Part IV on the next page.

44. Incorporates an international dimension into the mission of the institution.

- ☐ Yes, my department or institution does this.
☐ I don't know if my department or institution does this.
☐ Neither my department nor institution does this.

45. Encourages the adoption of new teaching practices or materials to internationalize the curriculum.

- ☐ Yes, my department or institution does this.
☐ I don't know if my department or institution does this.
☐ Neither my department nor institution does this.

46. Other (*please describe*):

Please indicate your level of agreement or disagreement with the following statements based on the scale provided.						
Strongly Agree	Agree	Slightly Agree	No Opinion/ Don't know	Slightly Disagree	Disagree	Strongly Disagree

47. My department exhibits a high level of commitment to internationalization.

7 6 5 4 3 2 1

48. My institution exhibits a high level of commitment to internationalization.

7 6 5 4 3 2 1

49. It is more difficult to receive support from my department and/or institution for activities that require international travel since September 11, 2001.

7 6 5 4 3 2 1

50. There are fewer opportunities to participate in international collaboration since September 11, 2001.

7 6 5 4 3 2 1

Please continue to the next page.

Part V (7 items). Please describe your experience with international education, teaching, and research:

51. Have you ever held a temporary or permanent teaching position in a foreign country? ☐ Yes ☐ No

52. Have you ever collaborated with international colleagues on course development or instruction? ☐ Yes ☐ No

If yes, please describe the nature and outcomes of the collaboration(s):

If yes, did you use the Internet for some or all of the collaboration(s)?

☐ Yes ☐ No

53. Have you ever collaborated with international colleagues on a research project? ☐ Yes ☐ No

If yes, please describe the nature and outcomes of the collaboration(s):

If yes, did you use the Internet for some or all of the collaboration(s)?

☐ Yes ☐ No

54. Have you attended an international conference during the past five years? ☐ Yes ☐ No

Please include conferences that are “international” because they were held in a foreign location or had an international theme or delegation.

If yes, please list the five most-recent international meetings you attended:

55. During the past five years, have you been a member or associate of an international professional organization (e.g., the International Geographical Union or the International Cartographic Association)?

☐ Yes ☐ No

If yes, please identify those organizations:

56. During the past five years, have you published in an international journal (e.g., a journal published in another country or a journal with primarily an international audience or focus)?

☐ Yes ☐ No

If yes, please indicate which journal(s):

57. As a school, college, or university student, did you ever participate in a formal or informal education course or program in a foreign country? ☐ Yes ☐ No

If yes, please describe the nature and location of the activity:

Thank you for completing the Internationalizing Geography in Higher Education Survey.

Please mail, fax, or e-mail the completed survey to:

Dr. Michael Solem
Educational Affairs Director
Association of American Geographers
1710 16th Street NW
Washington, DC 20009-3198
Fax: 01-202-234-2744
Email: msolem@aag.org

APPENDIX 2

E-MAIL TO POTENTIAL SURVEY PARTICIPANTS

Dear colleague,

The Association of American Geographers is pleased to announce a new online survey to examine international education and collaboration in the discipline of geography. Partial funding for this research comes from the National Science Foundation and the American Council on Education.

Your help is requested to improve understanding of geography's role in international studies and the factors that either encourage or deter faculty from pursuing international collaboration in teaching and research. Your perspective is important to us regardless of whether you are currently involved in international collaborative work.

You can complete the online survey by using the Web-based form available here:

http://communicate.aag.org/eseries/Internationalization_Survey/logon.cfm

You will be prompted to create a username and password to access the questionnaire. You also have the option of downloading a pdf of the survey and returning a hard copy to us by mail or fax. In either case, please complete your responses by Monday, December 6, 2004.

The survey can be completed in less than 30 minutes and you can save your work to complete at a later time. All records of the content of the survey will be held strictly confidential and neither you nor your department/institution will be identified in the final report.

Please direct any questions regarding the survey to me at msolem@aag.org.

Many thanks in advance for your participation.

Regards,

Michael Solem, Educational Affairs Director

Waverly Ray, Research Assistant

APPENDIX 3

SURVEY TIMELINE

Action	Completed
Beta-testing of Web survey	November 2004
AAG sent invitation to participate	November 2004 and January 2005
AAG sent reminder of invitation to participate	December 2004 and February 2005
Data collection ended	February 28, 2005

APPENDIX 4

ROTATED COMPONENT MATRIX^a

	Component Loading ^b			
	1	2	3	4
22. International collaboration enhances the quality of my teaching	.857			
23. International collaboration enhances the quality of my research	.855			
24. I think it is important to encourage my students to participate in study abroad programs, international internships or international service learning	.864			
25. I have time to pursue international collaborations				.675
26. International perspectives are relevant for my classes	.863			
27. International perspectives are relevant for my research	.854			
28. International collaborative research is not difficult for me to achieve				.880
29. International teaching collaborations are compatible with my preferred teaching methods	.681			
30. I am aware of how geography is taught in different countries		.539		
31. I stay abreast of research developments in geography in different countries through the literature, the Internet, or through communications with colleagues		.491		
32. I think that I have the skills necessary to engage in international collaborative teaching	.827			
33. I think that I have the skills necessary to engage in international collaborative research	.824			

47. My department exhibits a high level of commitment to internationalization		.820		
48. My institution exhibits a high level of commitment to internationalization		.814		
49. It is not more difficult to receive support from my department and/or institution for activities that require international travel since September 11, 2001			.900	
50. There are not fewer opportunities to participate in international collaboration since September 11, 2001			.899	
Percent of variance explained	52%	9%	9%	7%

^aExtraction method: Principal component analysis

Rotation method: Varimax with Kaiser normalization

^bFactor loadings smaller than 0.45 are omitted

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