

Effective Online Practices for International Learning Collaborations

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Abstract

The Association of American Geographers' Center for Global Geography Education aims to internationalize geography in higher education by providing materials and activities to support international learning collaborations. From 2007-2011, geographers in different countries collaboratively developed online learning materials and trialed these materials in their courses. This research examines the student learning outcomes for international trials in seven countries in order to develop effective practices for the implementation of online, cross-cultural curricula.

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Facilitators require competencies—from flexibility in teaching methods to an awareness of ‘teachable’ moments—to coordinate meaningful online and off-line student intercultural communications.

Keywords: international collaboration, e-learning, intercultural communication

Introduction

The Center for Global Geography Education (CGGE) aims to internationalize geography in higher education by supporting international collaborations that promote active learning and cross-cultural student inquiry and discovery (Solem et al., 2003; CGGE, 2010). The CGGE is founded in the idea that international, intercultural, and geographic knowledge, skills, and values are necessary for today’s college and university students to understand, and ultimately succeed in a globalized world. Rooted in an active, inquiry-based learning pedagogical framework professors using the CGGE materials are referred to as “facilitators” to reflect the idea that the faculty role in these collaborations is to guide the students’ inquiry and exploration of the issues, not to lecture and present the learning outcomes as a body of received facts (Spronken-Smith, Bullard, Ray, Roberts, & Keiffer, 2008). Based on nine international collaboration trials in ten countries, Klein and Solem (2008) reported that the phase one CGGE modules (developed and tested during 2003-2005) improved students’ knowledge and skills and provide several recommendations for improving future international collaborations, such as increasing social presence through informal introductions, developing open-ended discussion prompts, and allowing instructors more flexibility when using the CGGE modules.

Since 2007 the CGGE phase 2 projects has expanded the phase 1 module offerings of National Identity, Migration, and the Global Economy, to include modules on Water Resources, Population & Natural Resources, and Global Climate Change. Faculty members and students have open access to each module from the CGGE website (<http://globalgeography.aag.org>). Each of the six CGGE modules was co-authored by a team of scholars from the United States and at least two other countries, in order to diversify the scope and geographic content of each module. Each module begins with a conceptual framework that introduces key geographic concepts and modes of analytical thinking. Rooted to each conceptual framework

are regional case studies that illustrate how geographic concepts can be used to interpret issues and problems affecting particular places. For example, the Global Economy module's conceptual framework addresses concepts such as scale, globalization, and global value chains and the module's case studies cover the dairy global value chain in New Zealand, the distribution of wine from Chile to the global market, the impact of foreign direct investment on Central and South American mining, and modern manufacturing methods and regional economic development in East and Southeast Asia. Each conceptual framework and case study has specific learning outcomes and a variety of complementary collaborative projects designed to support student learning.

The purposes of this research are to evaluate student learning outcomes related to the CGGE materials and to identify effective online practices that support this learning. Ray and Solem (2009) reported that geographers in the United States are more likely to implement international collaborations in their classrooms when the benefits of such collaborations are clear, and when their efforts receive support from their academic departments. While geographers have undertaken international teaching and learning collaborations in a variety of settings (Warf, Vincent, & Purcell, 1999; Vanneste, 2000; Keane, 2005; Arrowsmith, 2006; Schleicher, 2006; Durham & Arrell, 2007; Ray, 2007; Klein & Solem, 2008; Luna, Keane, & Klein, 2009; Muniz Solari, 2009; Muniz-Solari & Coats, 2009), international learning collaborations are not widespread (Ray & Solem, 2009). By providing insights into effective methods for implementing the CGGE modules in different learning contexts, this research aspires to further support the internationalization of geography in higher education.

Intercultural Communication in the Online Learning Environment

Numerous studies across disciplines investigate the use of the Internet to facilitate intercultural learning (Bentley, Tinney, & Chia, 2005; St. Amant, 2007; Meier, 2007; O'Dowd, 2007; Yildiz, 2009). Termed 'third place learning' (Rimington & Alagic, 2008) or 'communicating in the third space' (Ikas & Wagner, 2009), intercultural learning in the online environment has prompted new pedagogies and conceptualizations in geography (van der Schee, 2003; Soja, 2009). Intercultural communication is the process of stimulating meaning through the use of symbols among people of diverse cultures, subcultures, or subgroups (Jandt, 2010). In general terms, intercultural communication skills include awareness of one's own communication styles and patterns, understanding others' communication styles and patterns, and exhibiting flexibility in communication (Martin & Nakayama, 2008).

The development of the skills mentioned above leads to self-awareness and respect for cultural differences, which is termed intercultural communication competence (Jandt, 2010). Allahwerdi and Rikkinen (2003) emphasize that intercultural understanding has been a long-term goal of international education efforts.

Students' backgrounds, experiences, and motivations play a role in the success or failure of intercultural online learning. Productive interactions among students are the key to successful online international collaborative learning (Roberts, 2005). These interactions are mediated by the intercultural skills of students that enable them to effectively communicate across cultures (Olson & Kroeger, 2001). Impediments to intercultural communication in the online learning environment include students' apprehension, fear of rejection, lack of commitment, language barriers, and cultural norms that discourage the expression of personal opinions (Skinner, 2007; Klein & Solem, 2008; Muniz Solari, 2009).

In a review of literature related to instructors' intercultural experiences and their abilities to translate them into inclusive teaching practices, Schuerholz-Lehr (2007) reported that the process of integrating intercultural sensitivity and world-mindedness into college classrooms often requires deliberate efforts by instructors. This requires, as argued by Higgitt et al. (2008), that instructors have an understanding of intercultural differences when managing international collaborations. As Haigh (2002) points out, this presents a challenge because many university-level instructors have limited experience collaborating and teaching with people outside of their home country. Professional development that focuses on building the skills of instructors for international collaborations is needed to allay potential collaboration problems (Ray & Solem, 2009). As one example, Liu (2007) argues that online instructors, as well as students, need to be aware of cultural differences in the online learning environment. To address these impediments to establishing international learning and teaching collaborations, the CGGE developed a network of practice involving CGGE module developers through a series of international workshops (CGGE, 2011). The collaborations involved in the phase 2 researches stemmed in part from CGGE workshops in Chile and Singapore, which were partially funded by the National Science Foundation.

Method

To test the CGGE prior to its online publication, module developers were invited to trial beta-versions in their classes. Between August 2009 and May 2011, sixteen classes in seven countries (Australia, Chile, China, Northern Ireland, United States,

Singapore, and Spain) trialed the CGGE modules and participated in this research (Table 1). A total of ten trials, including four international collaborations wherein students in different countries worked together online using the CGGE collaborative activities, compose the study. Given the flexibility of integrating the CGGE modules into courses, each facilitator selected specific sections of the CGGE module and activities to assign to their students. For those facilitators involved in international collaborations, facilitators corresponding—typically by email—to determine which collaborative projects would be used and the scheduling of those projects. Table 2 presents the collaborative projects utilized in two of the international collaboration trials with details on the number of discussion board postings generated in the respective trials and whether or not the collaborative project was primarily assigned as an individual project or as a group project. Some facilitators utilized the CGGE e-learning platform (Moodle), while others integrated the online collaborative projects into their university’s e-learning platform (e.g., Blackboard). Typically, classes involved in an international collaboration were divided into an equal number of local groups of four to six students each, which were then matched to form an international team.

Table 1.

Trials Overview

Module	Total Students	Consenting students	Location	Course description
Trials with International Collaborations				
<i>Migration</i>	57	54	U.S.	An upper-division population geography course with primarily geography and international studies majors
	44	41	Chile	A second-year social geography course with history and geography education majors
<i>Population & Natural Resources</i>	18	17	U.S.	An introductory geography course with primarily education majors
	21	16	China	An environmental education course with primarily postgraduate students

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<i>Population & Natural Resources</i>	27	24	U.S.	A lower-division general education geography course
	33	33	China	Primarily geography education and geography majors volunteered to participate in this trial
<i>National Identity</i>	32	15	U.S.	An upper-division geography of Europe course
	25	n/a	U.S.	An upper-division geography course
	46	31	Spain	A second-year human geography course with primarily humanities majors
	48	n/a	Northern Ireland	An upper-division geography course
Trials without International Collaborations				
<i>Global Climate Change</i>	56	44	Australia	Introductory physical geography course with primarily first-year students
<i>Global Climate Change</i>	22	11	Singapore	Second-year climate and climate change course with primarily education majors
<i>Migration</i>	17	8	U.S.	An upper-division interdisciplinary studies course using the conceptual framework, U.S. case study, and Europe case study
<i>Migration</i>	98	84	U.S.	Two sections of a human geography course collaborated online using the conceptual framework, U.S. case study, and Chile case study
<i>Migration and Population & Natural</i>	56	40	U.S.	An upper-division population geography course using the Migration and Population & Natural Resources conceptual

<i>Resources</i>				frameworks and U.S. case studies
<i>Water Resources</i>	36	21	U.S.	An introduction to physical geography course at a community college

Table 2.

Collaborative Projects for Selected International Trials

Collaborative project Associated CGGE content	Description	Individual (I) or group (G) work	Number of discussion forum posts
<i>National Identity</i> (Two classes from the U.S., one class each from Spain and Northern Ireland)			
<i>Virtual Tour Icebreaker</i>	Students prepare tours of their local area in order to introduce themselves to their international teammates.	G	15
<i>Exploring Concepts Conceptual Framework</i>	Students explore the varying definitions for nations, ethnic groups, and states.	G	18
<i>National Symbols National Symbols Case Study</i>	Students select and share the national symbols for their international teammates' countries. Students then discussion these perceptions of national identity symbols.	G	8
<i>Local Landscapes Landscapes Case Study</i>	Students share and analyze images from their local landscapes.	I	53
<i>Exhibits of National Identity</i>	Students create presentations on place-	G	10

<i>Landscapes Case Study</i>	based identity and analyze exclusive and inclusive landscapes.		
Transnational and Supranational Identity <i>Conceptual Framework and Contested Public Spaces Case Study</i>	Students discuss expressions of ethnic identity and perceptions of nationhood.	I, G	119
Migration (One class from Chile and one class from the United States)			
Virtual Tour <i>Icebreaker</i>	Students prepare tours of their local area in order to introduce themselves to their international teammates.	G (Chile) I (U.S.)	54
Local Migration Research <i>Conceptual Framework</i>	Students conduct local migration surveys, compile their results in a report, and make comparisons with their international teammates.	G (Chile) I (U.S.)	41
Female Migration News <i>Southeast Asia Case Study</i>	Students research a topic such as human trafficking or factory labor, and write news articles.	G (Chile) I (U.S.)	50

Data Collection

Using a pre-test/post-test study design, survey instruments were designed to measure students' content knowledge changes and to provide a feedback mechanism for student participants. A total of 636 students trialed the CGGE modules, of which 439 agreed to participate in this research. In addition to items related to the students' educational and personal backgrounds, the pre-test contained open-ended content knowledge items derived from the learning outcomes stated in the relevant CGGE conceptual frameworks and case studies, and open-ended items related to the CGGE project. The student post-tests contain the same content knowledge items from the pre-test along with open-ended items about the CGGE. The content knowledge

items were scored following a rubric unique to each trial and the specific CGGE module elements implemented by the facilitators (Table 3). In this way, each pre-post test was customized to the learning outcomes in the CGGE module element (conceptual framework and/or case studies) utilized by the facilitators in that trial. The pre-post test content gain scores were normalized across trials to analyze content knowledge increases as a percentage. Open-ended items on the post-tests solicited feedback about the implementation of the CGGE modules in their classes. Additionally, an end-of-trial instructor questionnaire was provided to facilitators to gain insights on implementation successes, challenges, and recommendations for future trials. Eight of the sixteen faculty member facilitators submitted the completed instructor questionnaire, of which five were from the United States.

Table 3.

Example Learning Outcomes, Pre-Post Test Item, and Scoring Rubric

Module	Learning Outcome	Pre-Post Test Item	Scoring Rubric		
			3 points	2 points	1 point
<i>Migration</i>	Understand the spatial forms and flows of human migration in a globalized world.	How has migration flows changed in the past twenty years?	Indicates that: there has been an increase in the number of countries that receive international migrants, flows have shaped the global economy, and contemporary immigrants maintain transnational connections	Includes two of the components of a 3-point response	Includes one of the components of a 3-point response
			Not applicable ¹	Any three of: Change in Earth's orbit (eccentricity), axial precession, axial tilt or nutation, solar energy variations and sunspot activity, change in ocean currents, periods of increased volcanism, periods of	Includes one or two of the components of a 2-point response
<i>Global Climate Change</i>	Explain how and why global climates have changed throughout Earth's history.	Name three reasons why global climates have changed through Earth's history.			

¹The maximum points possible for each item on the Global Climate Change assessment was 2 points.

increase
mountain
building
(orogeny),
continental
configuration

Findings

Each CGGE trial is unique in terms of the students, courses, and implementation methods employed by facilitators. Seven of the ten trials utilized the CGGE's Moodle e-learning platform to support students' collaborative projects. Student group sizes ranged from six to nine students depending on the specific trial; for international collaboration trials, most international teams included ten to twelve students. The number of collaborative projects, such as wikis or discussion forums, ranged from two to seven per trial. The findings are reported in three parts: in the first part presents the student learning outcomes for all trials; the second part focuses on feedback from students involved in international collaborations; and the third part details the feedback provided by facilitators.

Student Learning Outcomes

Consistent with the phase 1 evaluation (Klein and Solem 2008), students demonstrated content knowledge gains on the learning outcomes specified for the CGGE module components utilized in their geography courses (Figure 1). No significant differences were detected when comparing the normalized gain scores of students who participated in an international collaboration compared to those who utilized the CGGE modules without an international collaboration.

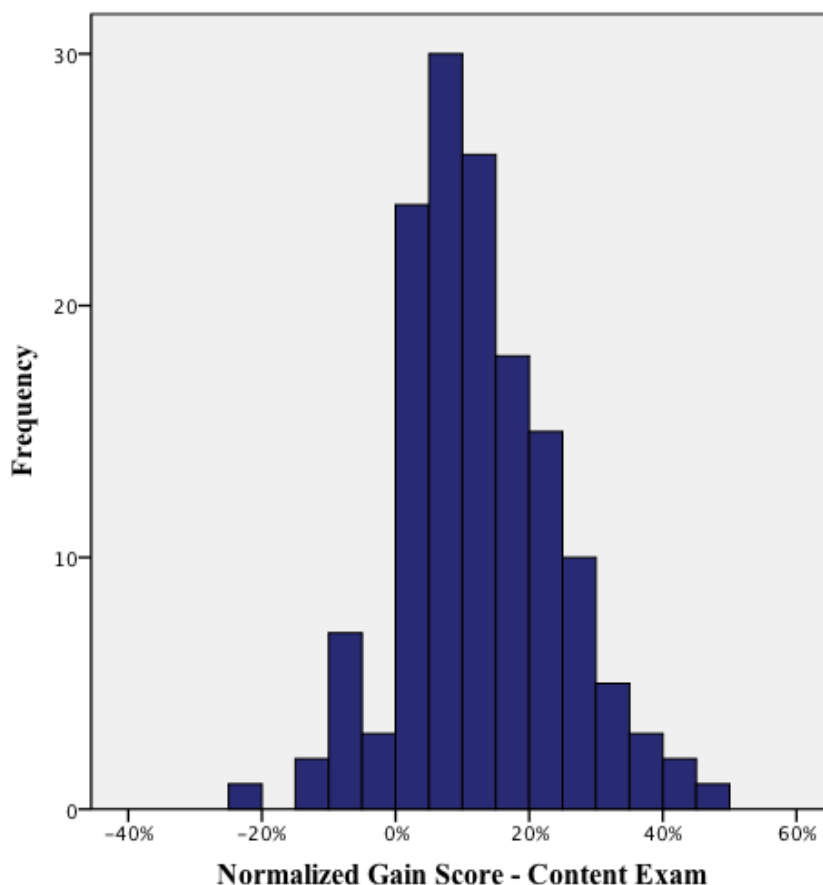


Figure 1. Histogram of total normalized gain scores on content exams ($n = 147$ students; mean = 13% increase on content exam; standard deviation = 12%; median = 13%)

Student Feedback

At the end of the CGGE project, students were asked several questions about their experience using the CGGE modules. Overall, students commented that the case studies were interesting, informative, and relevant to current global issues. Several students commented that more interactive features and videos would encourage their interest in the materials and that some of the online reading was lengthy. Those who

participated in international collaborations indicated that they were disappointed when their international team members did not participate in the discussion forums.

The following quotes from students who participated in international learning collaborations serve as a sample of the variety of perspectives reported on students' post-tests and reflective essays, which provide insights into the depth of their learning. Fully understanding the learning experience for students involved in international collaborations is challenging because it is difficult to isolate the specific component or components that supported student learning. For example, it is unclear if learning is influenced by the students' interpretation of the conceptual framework and case study content, their local group discussions, their discussion with international teammates, if comments made by their facilitators, or some other factor or combination of factors. For this reason, each international collaboration provides unique circumstances that require analysis on a case-by-case basis. The selected quotes are reflective of dominant themes that emerged from the student comments.

Differences of language or culture are not barriers to sharing, good communication, and understanding. I learned that we can work in teams in order to make ourselves known to the world in the best way. (Chilean student/Migration module)

Although basic knowledge can be acquired from anywhere, what is important is the inspiration from this project. It made me begin to think about current problems between population and natural resources from the global perspective. (Chinese student/Population & Natural Resources module)

Students also shared their frustrations related to the challenges of international collaborations. The excerpts below address the barriers to successful intercultural collaborative learning.

I feel that we weren't always on the same page on some or most of these topics. Obviously the language barrier is hard to get around. (U.S. student/Migration module)

It was interesting how they did the same assignment as us, but completely different. (U.S. student/Population & Natural Resources module)

We spent a lot of time doing our work and its translation. The work of students in the United States reflects less commitment and a complete lack of interest in our language.

(Chilean student/Migration module)

I think the project is a good experience that it connects college students from different countries together, but I think that all students need to be expected to put the same amount of work into it for it to work properly!

(U.S. student/National Identity module)

This was a very eye-opening experience. The lack of information from people living in other cultures formed views for me that were very narrow. I learned that the U.S. is very atypical in several areas when compared with countries in Europe. We have very little cultural history and a very inclusive attitude towards others in comparison to European countries.

(U.S. student/National Identity module)

In order to provide an example of how these experiences actually occur for the students, an example of the Chile-U.S. international collaboration using the Migration module will be made. One student reflected on the Migration module Southeast Asia case study local migration research project and provided the following comments on his or her reflective essay:

Going into this activity I had no knowledge of Chile, nor their culture. One Chilean in particular interviewed a number of people moving to her country in the conceptual framework activity. The reasons for her interviewees' moves to Chile greatly differed from mine. Whereas the migrants moving to the United States typically come for greater labor opportunities and greater overall living standards, her interviewees came for religious reasons, better treatment of women, and a less structural society...Although the United States as well as Chile have extremely different lifestyles, this activity was a good indicator that we share one big characteristic, we are all globally interconnected.

(U.S. student/Migration module)

The discussion forum thread that relates to the Chilean teammates' local migration report referenced in the above quote includes three messages. The first message is from the Chilean student who uploaded her report as an attachment. The report is written in Spanish and includes interviews with three migrants along with a brief summary that classifies the migration types of her interviewees. The second and

third messages were posted by two of her teammates in the United States, the second of which was made by the student quoted above. The full message thread is as follows:

LA MIGRACION EN CHILE ES UN PROCESO QUE TIENE MATIZACIONES, PUEDE DEBERSE A MOTIVOS NETAMENTE LABORALES, EDUCACIONALES O SIMPLEMENTE COLABORATIVOS. (Chilean student/Migration module/April 22, 2011).

Eso fue muy completo Emilia, me siento avergonzado por la falta de información que he publicado! He utilizado Google Translate para leer el documento. Sólo decirle a todo el mundo en caso de que ayuda con las traducciones.

That was very thorough Emilia, I am embarrassed about the lack of information I posted! I used Google Translate to read your document. Just telling everyone in case that helps with translations (U.S. student/Migration module/April 26, 2011).

Me gustó la información que proporcionó. Muy interesante! (U.S. student/Migration module/May 1, 2011).

This interaction demonstrates how motivated students navigate through cross-linguistic international collaborations. The Chilean student's post in capital letters without the appropriate accent marks means that digital translation tools would be less accurate. The interaction is challenged further by the brevity of student comments, as well as the time delay among teammates' postings.

Facilitator Feedback

When asked how using the CGGE module differed from how they normally teach about the topic, facilitators most commonly responded that: the CGGE module offered more in-depth content than normally covered; implementation of the CGGE module included collaborative student activities, which were not typically facilitated; the CGGE module encouraged more online facilitator-student communications; and in advanced courses, the CGGE module included content that overlapped with content from introductory courses. Facilitators echoed the comments from students regarding the negative impact of scheduling problems and communication delays. Facilitators reported that their efforts contributed to the success of the project when they offered continual guidance to students and incentives to students to complete their work on time. Facilitators also noted that

regular communication with their collaboration counterpart improved the overall implementation experience. To illustrate these points, one facilitator teaching at a U.S. university noted the following when explaining the factors that contributed to the project's success: "clear and helpful communication from my collaborators" and "regular and active participation in group activity by me". A facilitator teaching outside of the United States recommends that future facilitators "encourage students to communicate with the students in another country" and "evaluate the students' performance regularly".

Discussion and Conclusion

The implementation of any new curriculum is an iterative process that typically requires formative and summative assessments and evaluations that can be used to improve future teaching efforts. This may be especially true for international collaborations in geography. The CGGE modules and supplementary materials provide support for academics who recognize the utility of internationalized curricula in geography and related disciplines. The experiences of students and facilitators who trialed beta-versions of the CGGE modules provide guidance for the successful implementation of international collaborations.

In response to recommendations from the phase 1 evaluation, as well as the formative feedback during the trials of beta-versions of the phase 2 modules, several supplementary documents were created to support online teaching and learning collaborations. Zimmerman and Solem (2010) developed A Facilitator's Guide to the CGGE Modules in order to prepare faculty members who plan to use any component of a CGGE module and offers specific guidance for planning, implementing, and assessing international collaborations. The Guide to CGGE Collaborative Projects highlights the Moodle-based activities so that facilitators understand the format, time requirements, and learning outcomes for each CGGE collaborative project (CGGE, 2011). The CGGE Student Guide introduces students to the CGGE and provides instructions for getting started, updating CGGE profiles, and the CGGE icebreaker activity. The guide also provides Moodle tips and cautions students against using slang or idioms when online translators such as Google Translate or Yahoo! Babel Fish will be used.

Effective Online Practices for International Learning Collaborations

1. When preparing for and implementing an international collaboration, work closely with your collaborator. As facilitators, your support of student learning may

differ widely due to course expectations, teaching styles, and wider educational contexts. Discuss expectations, deadlines, and prior teaching experiences with your co-facilitator in order to develop a successful collaboration.

2. Provide students with a low-stakes introductory “icebreaker” activity to increase social presence. High levels of social presence—the involvement and sense of community among online learners—enhance student learning (Tu, 2002; Tu & McIsaac, 2002; Palloff & Pratt, 2005; Johnson, Hornik, & Salas, 2008; Kehrwald, 2008; So & Brush, 2008).

3. Allow for in-class discussion of online collaborative projects—for logistical questions as well as for reinforcing student learning. If students within one team make exemplary progress in a discussion forum, for example, then share this with your students. Facilitators may decide to open the discussion forums to allow students to read posts made by other teams, which can potentially provide students with clarity on assignment tasks and allow students to learn from the discussions made by other teams.

4. Assign reflective essays at the end of the international collaboration in order to gauge students’ perspectives on the learning experience. These essays may provide meaningful feedback that can be implemented in future international collaborations.

Beyond practical recommendations, there are numerous competencies for facilitating online international learning collaborations. Facilitators need skills to develop a sense of community among learners and to overcome the limitations of computer-mediated communication (Warf, Vincent, & Purcell, 1999; Tu, 2002, Tu & McIsaac, 2002). Awareness of the important tenets of global education, such as perspective consciousness discussed by Hanvey (1982), allows facilitators to identify “teachable” moments in the collaboration process. While the amount of time involved in planning and facilitating international learning outcomes may be a barrier to implementation, this research demonstrates that the CGGE materials can be used effectively to impart international perspectives about contemporary global issues without the international collaborative element.

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