
Do International Online Collaborative Learning Projects Impact Ethnocentrism?

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ABSTRACT Preparing students for success in a globalized world invites new approaches. Online collaboration between students from different countries via globally networked learning environments (GNLEs) is one such approach. This article presents the results of a six-semester study beginning in 2006 of international online project collaborations between undergraduate students at a university in the United States and in Poland. The two universities and student populations involved have very different learning environments, backgrounds, and programs, raising interesting questions about the impact of such international collaborations on student intercultural awareness. Focusing on one aspect of such awareness – ethnocentrism – this article reports on a quasi-experimental study using James Neuliep’s 22-item Generalized Ethnocentrism (GENE) scale, designed to measure ethnocentrism. The findings suggest that the international online collaborations reported in this study did not have any statistically significant impact on ethnocentrism. With the high level of interest in GNLE approaches, these findings point to the need for more study to better understand the attitudinal effects of international online collaboration.

Introduction

In the constantly changing world of e-learning, globalization is an ever-present dimension. It has not only changed the context of our teaching; it is also affecting learning outcomes and the use of communication and collaboration technologies. Boehm & Aniola-Jedrzejek have projected that:

the workplace of the 21st century will increasingly demand employees who bring a global perspective as well as a multiplicity of abilities to their work, including an understanding of world cultures, an ability to work collaboratively, and the capacity to integrate technology into many facets of their work. (Boehm & Aniola-Jedrzejek, 2006, p. 2)

Developing intercultural capabilities and awareness in students using electronic learning environments invites creative approaches – but also poses new questions. Teachers of all disciplines whose courses incorporate writing and communication aspects are often able to address these global changes through new reading and writing assignments. However, developing students’ deep reflection and broad understanding of intercultural awareness and tolerance requires more than developing new reading and writing assignments. Rather, students need to develop competence in collaborative and creative project-based work and enhance habits of reflection and self-critique (Bruns & Humphreys, 2005). If students are truly to understand globalization issues, they must grapple with them in a way that connects to their everyday lives, and develop an ability to

recognize and expand intercultural awareness and competency as well as overcome cultural stereotypes.

Thus, one of the significant challenges for faculty is to develop opportunities for students to not only learn first-hand about the process of globalization, but to challenge and re-evaluate their own cultural perspectives, building shared learning and knowledge cultures across traditional boundaries (Starke-Meyerring & Wilson, 2008). Indeed, one of the ultimate goals of educators should be to help students develop intercultural communicative competence and prepare them to become global citizens. Students need not necessarily always agree with the views and opinions of peers in other countries. The more important question is whether they can recognize, understand, and respect differences, and effectively communicate and negotiate in spite of them.

One approach to prepare students for globalization is to design international online collaborative student projects within the framework of globally networked learning environments (GNLEs) (Kurthen, 2008). One example of such a project is the online project collaboration begun in 2004 between Saginaw Valley State University (SVSU) students in Michigan and their peers at Poznan University of Technology (PUT) in Poland. As this partnership evolved, student reflections in the early semesters of the collaboration revealed a growing understanding of both electronic tools and cultural similarities and differences, in spite of the lack of opportunity for face-to-face relationship building or interaction that might otherwise mediate working relationships.

These student comments raised questions about the measurable impact of this collaboration on cross-cultural awareness, on the critical assessment of students' own cultural identity, and on greater openness to different perspectives and cultural values. In order to probe more deeply into this impact, we focused on one aspect of such awareness – ethnocentrism – and used James Neuliep's 22-item Generalized Ethnocentrism (GENE) scale, a survey tool designed to measure ethnocentrism, to test our hypothesis that international collaboration between students will reduce ethnocentric attitudes. A quasi-experimental pre- and post-test study was conducted over six semesters with students from SVSU and PUT to investigate the cross-cultural awareness and attitudinal effects of five- to six-week online collaborative projects.

Research on Ethnocentrism in Collaborative Projects

As scholars of cultural attitudes such as William Gudykunst have noted, culture automatically 'acts as a filter through which all messages, both verbal and nonverbal, must pass' (quoted in Neuliep, 2009, p. 29). Neuliep (2009) and others have argued that this tendency to look at the world primarily from the perspective of one's own culture is universal, that 'all intercultural exchanges are necessarily, to a greater or lesser extent, charged with ethnocentrism' (Neuliep, 2009, p. 29), since people tend to use their own culture as 'the standard for judging and evaluating another group's values, attitudes, and behaviors' (Neuliep, 2002, p. 201). According to this hypothesis, ethnocentrism plays a greater or lesser role in all intercultural communication, though, as Cramton & Hinds (2005) point out, it generally remains invisible until or unless some experience, like an encounter with the 'other', activates it. When activated, ethnocentrism can create 'a barrier to effective and competent intercultural communication' (Neuliep, 2002, p. 203). In a global intercultural workplace or the e-learning environment, Cramton & Hinds (2005, p. 234) assert, 'ethnocentrism ... along cultural and geographic faultlines is a natural but detrimental tendency in internationally distributed work'. Characterized by greater difficulty in interaction with other cultural groups, at high levels ethnocentrism becomes a significant obstacle to effective collaboration and learning.

Studies of intercultural virtual teams in the workplace, such as those analyzed by Armstrong & Cole (2002), have concluded that successful workplace collaboration requires 'integrating practices that promote greater understanding and liking between cultural groups' (Armstrong & Cole, 2002, p. 167), such as personal interactions to build trust and supportive contexts and structures. This principle is especially relevant in cultures where developing a personal relationship is seen as an important foundation prior to starting a collaborative project (for example, Poland).

Cramton & Hinds (2005, p. 258) have investigated factors that determine whether ethnocentrism or cross-national learning will result during international collaboration in the workplace, identifying 'environment, practices, and tools' as the three essential factors that 'enable

teams to transcend ethnocentrism and learn about and leverage their differences for the benefit of the team'. However, workplace research on distributed teams is a fast-moving target, as so much is changing so rapidly that the research lags behind emerging practices, and the findings may not be transferable to student learning in online collaborative projects.

Earlier studies of online student exchanges often focused primarily on language learning. Although these studies indicate that network-based interactions do develop intercultural learning, O'Dowd (2003, p. 118) warns against the assumption that contact between cultures, including virtual intercultural contact, 'automatically leads to intercultural learning and to the development of positive attitudes toward the target culture'. She cautions that 'intercultural exchanges which fail to function properly can lead to a reinforcement of stereotypes and a confirmation of negative attitudes' (p. 138). Studies of online international collaborative learning projects, such as email interaction (O'Dowd, 2003), language learning (Belz, 2002), or cultural literacy projects (Furstenberg et al, 2001; Neuliep et al, 2001), however, did not explore the question of whether intercultural awareness leads to a decrease of stereotypical ethnocentric assumptions about other cultures.

International Online Project Design

The American–Polish student online collaboration we studied from 2006 to 2009 was conducted for five to six weeks each semester, the limited time span during which the semesters in the two countries overlap. Using SVSU's open-source learning management system (LMS) Sakai, students carried out assigned collaborative project tasks via discussion boards, email, virtual chats, wikis, and, occasionally, Skype™. Although tools such as videoconferencing might make it easier to establish working relationships, they were not available in this case. Here, the LMS was the essential foundation: it not only allowed access to multiple asynchronous and synchronous electronic tools, but also provided a repository for all the work done in the project.

The international collaboration served different purposes for each group. Each semester, one class of students in each country participated. The SVSU participants, mostly regional first-generation-in-college students, were enrolled in either Freshman Composition (fall semesters) or an upper-level Writing in the Professions course (spring semesters). Few had previously traveled outside the United States or experienced other international interactions. For the American students, there were four learning objectives:

- Develop an international perspective on current issues.
- Build cooperative skills in multinational groups.
- Increase competence in the use of technology in cooperative settings.
- Enhance research and writing skills in a cooperative context.

The PUT students, primarily second- or third-year students from western or central Poland, were studying in different technology faculties (for example, physics, computer science, engineering) and enrolled in required English classes for low- to high-intermediate language proficiency levels. Most had traveled to other European Union countries and been exposed to different cultural settings. In semester six of the collaboration (Spring 2009), the PUT participants also included a group of faculty/professional staff enrolled in a newly developed Professional Writing in English course at PUT. For the Polish students, there was an additional learning objective:

- Enhance English-language skills through content – CLIL (content and language integrated learning) approach.

The students worked in teams (generally two SVSU and two/three PUT students), based on their selection of issues of interest in both US and Polish life. The assignments were co-designed by the instructors to necessitate exchange of ideas and materials between students from both countries and to heighten awareness of cultural similarities and differences, depending on the course content and student populations. In a typical assignment, groups compared and contrasted an aspect of culture that interested them (see an example of a typical assignment in Appendix 1). Each team was also required to prepare a PowerPoint presentation based on the project, to be given in their local course setting. Each instructor integrated these projects into his/her own grading scheme for the course.

Learning technologies were chosen to correspond with the assignment. The students began their work with a discussion forum in which they introduced themselves to the group and posted a photograph. The students then typically 'met' the other members of their group in an initial virtual chat (arranged at an agreed-upon time) and began planning their work together. The chat tool remained available throughout the project, if groups chose to use it.

In order to carry out the project, a second discussion forum was set up for each group, with multiple threads to collect and exchange information, brainstorm ideas, post attachments, and generally lay the groundwork for the project. An email distribution list was also available within the course site. Drafts, including PowerPoints, could easily be exchanged as email attachments and posted to the group discussion forum.

Wikis were chosen for the formal assignment for several reasons. Students around the world are familiar with Wikipedia. From a pedagogical point of view, wikis promote collective authoring. For developing writers, they readily incorporate all four aspects of revising: adding text, deleting text, reordering text, and rewording text. Although learning to build upon one another's work is often a challenge for students, Guth (2007) has found that using wikis promotes critical reading and responsible writing, encourages writing as a process, promotes (intercultural) knowledge sharing over time, and emphasizes the collective, rather than individual, ownership of work. In this case, wikis were an appropriate tool for helping students achieve these skills.

Within this framework of goals, assignments, and tools, it was our hope that students would 'achieve the kind of transformative learning that results from inquiring into, questioning, and negotiating these diverse ways of knowing and from building shared learning and knowledge cultures across traditional boundaries' (Starke-Meyerring & Wilson, 2008, p. 21), having the impact described in the GNLE research (Starke-Meyerring & Andrews, 2006) and in the cultural psychology literature (Kitayama & Cohen, 2007).

In other words, we anticipated that after completing the online collaboration, stereotypical and ethnocentric attitudes would decline in comparison with equivalent control groups. In order to test this assumption, we chose Neuliep's 22-item GENE scale as the foundation for a quasi-experimental pre- and post-test design with SVSU and PUT experimental and control student groups over a period of six semesters, beginning in 2006.

Instruments and Methodology

The Generalized Ethnocentrism or GENE scale, originally developed by James Neuliep & James McCroskey (1997), was used to measure the degree of ethnocentric attitudes among participants at the beginning and the end of each collaboration period. The GENE scale (see Appendix 2) consists of 22 statements rated on a Likert scale ranging from (1) 'strongly disagree' to (5) 'strongly agree'. Fifteen of these items are used to calculate individual GENE scores; the remaining items are distractors. The possible range of GENE scores is from 15 to 75. A high score represents a high degree of measured ethnocentrism and vice versa.

Neuliep & McCroskey tested and refined the scale against several other instruments, concluding that it 'is a reliable and valid measure of generalized ethnocentrism' (Neuliep, 2002, p. 213). This conclusion has been verified by other scholars who confirmed that the scale can be used to measure ethnocentrism in differing cultures and contexts. Goldstein & Kim (2006), for example, used the GENE scale to understand the role of ethnocentrism in preparing students for study-abroad placements.

Based on the expectations expressed in the literature, we developed the following hypothesis: Online student collaborations (like those we conducted) produce an observed effect on ethnocentrism, i.e. leading to its decrease. In order to measure this effect statistically, we used an experimental design in which the GENE scale was typically administered at the beginning of the collaboration period (week 7 of the semester) and at the end (week 13). Furthermore, the given experimental groups of approximately 9 to 21 students (see Table I) were matched with one or more equivalent control groups (see Table II) of similar size from the same student population, typically from other parallel sections, based on convenience.

The conditions of this experiment without randomization can be considered quasi-experimental. But repeated trials allowed for a robust testing of the hypothesis. In order to make

sure the experimental and control groups were comparable and to control for demographic effects, the questionnaires contained 11 demographic questions (see Appendix 3, Student Survey) that prefaced Neuliep's GENE scale (see Appendix 2). For all groups and semesters, the following statistical tests were conducted to test our hypothesis: alpha reliability tests of the GENE scale (results not included here because reliability was above 0.6); independent *t*-tests to prove that the experimental and control groups came from comparable populations; and, finally, independent samples *t*-tests and paired samples *t*-tests with a 95% confidence interval to examine our hypothesis. (Note: beginning with the third semester, the entire questionnaire, including the GENE scale questions, was translated into the Polish language for all Polish students, significantly improving the alpha reliability levels of the GENE scale.)

| | Semester I (Fall 2006) | Semester II (Spring 2007) | Semester III (Fall 2007) |
|------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SVSU students | First-semester freshmen in Composition course. (<i>n</i> = 16) | Upper-class students in Professional Writing course (varied majors). (<i>n</i> = 18) | First-semester freshmen in Composition course. (<i>n</i> = 19) |
| PUT students | Fourth-semester sophomores studying Technical Physics and pre-intermediate-level English course. (<i>n</i> = 14) | Second-semester freshmen studying Mechanical Engineering and intermediate-level English course. (<i>n</i> = 16) | Third-semester sophomores studying Technical Physics and intermediate-level English course. (<i>n</i> = 19) |
| Assigned project | Research-based report and presentation: contrast and comparison of an aspect of culture in Poland and the USA. | Original critical incident based on cultural issues with presentation/discussion. | Research-based report and presentation: contrast and comparison of an aspect of culture in Poland and the USA. |
| Typical topics | Job market, education, holidays and customs. | Energy sources, greenhouse effect, work abroad, workplace ethics. | Job market, films and entertainment, role of sports. |
| | Semester IV (Spring 2008) | Semester V (Fall 2008) | Semester VI (Spring 2009) |
| SVSU students | Upper-class students in Professional Writing course (varied majors). (<i>n</i> = 19) | First-semester freshmen in Composition course. (<i>n</i> = 20) | Upper-class students in Professional Writing course (varied majors). (<i>n</i> = 21) |
| PUT students | Third-semester sophomores studying Technical Physics and intermediate-level English course. (<i>n</i> = 9) | Third-semester sophomores studying Technical Physics and intermediate-level English course. (<i>n</i> = 17) | Academic staff participating in a Professional Writing in English course, sophomore students studying Computer Science and intermediate-level English course. (<i>n</i> = 16) |
| Assigned project | Original critical incident based on cultural issues with presentation/discussion. | Research-based report and presentation: contrast and comparison of an aspect of culture in Poland and the USA. | Contrast/comparison analysis of a significant issue. |
| Typical topics | Management systems, national sites, sports, dancing, cars. | Job market, films and entertainment, role of sports. | Investments, alternative energy sources, social networking tools. |

Table I. SVSU and PUT experimental groups in the study.

| | Semester I (Fall 2006) | Semester II (Spring 2007) | Semester III (Fall 2007) |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| SVSU students | Freshman Composition students in two different sections of the course, taught by two different instructors. (n = 27) | Writing in the Professions students in three different sections of the course, taught by three different instructors. (n = 64) | Freshman Composition students in six different sections of the course, taught by three different instructors. (n = 99) |
| PUT students | Similar group at another faculty: third-semester sophomores in Mechanical Engineering and intermediate-level English course. (n = 13) | Similar group at the same faculty: second-semester freshmen in Mechanical Engineering and intermediate-level English course. (n = 13) | Upper-level group at another faculty: fourth-year students in Transport and intermediate-level English course. (n = 11) |
| | Semester IV (Spring 2008) | Semester V (Fall 2008) | Semester VI (Spring 2009) |
| SVSU students | Writing in the Professions students in four different sections of the course, taught by three different instructors. (n = 66) | Freshman Composition students in six different sections of the course, taught by three different instructors. (n = 35) | Writing in the Professions students in four different sections of the course, taught by two different instructors. (n = 66) |
| PUT students | Third-semester sophomores studying Mechanical Engineering with varied levels of English proficiency. (n = 23) | Freshman students studying Mechanical Engineering with varied levels of English proficiency. (n = 23) | Electrical Engineering and Civil Engineering faculty. (n = 19) |

Note: see Table I for comparison with experimental groups.

Table II. SVSU and PUT control groups in the study.

Findings

In order to measure if the experimental and control groups for each semester and each university came from populations with the same distribution, an independent *t*-test was used to test the null hypothesis that there is no observable difference between GENE scores. This assumption was confirmed for all six-semester SVSU and PUT samples (see Table III).

| | Pre-test experimental samples | | | Pre-test control samples | | | Sig. | <i>t</i> | df |
|-------------|-------------------------------|-------|------|--------------------------|-------|------|------|----------|-------|
| | <i>n</i> | Mean | SD | <i>n</i> | Mean | SD | | | |
| SVSU | | | | | | | | | |
| Fall 2006 | 16 | 29.06 | 6.30 | 27 | 31.02 | 7.63 | 0.37 | -0.91 | 36.51 |
| Spring 2007 | 18 | 26.78 | 8.06 | 64 | 28.02 | 7.01 | 0.72 | 0.37 | 24.70 |
| Fall 2007 | 19 | 30.53 | 6.60 | 99 | 29.76 | 6.40 | 0.64 | 0.47 | 24.92 |
| Spring 2008 | 19 | 29.21 | 7.42 | 66 | 30.58 | 6.57 | 0.48 | -0.72 | 26.65 |
| Fall 2008 | 20 | 27.68 | 5.54 | 35 | 29.77 | 6.28 | 0.22 | -1.26 | 41.27 |
| Spring 2009 | 21 | 27.81 | 5.34 | 66 | 29.42 | 5.69 | 0.24 | -1.19 | 35.62 |
| PUT | | | | | | | | | |
| Fall 2006 | 14 | 33.64 | 5.68 | 13 | 35.62 | 7.72 | 0.46 | -0.75 | 21.97 |
| Spring 2007 | 16 | 31.44 | 6.71 | 13 | 36.08 | 6.91 | 0.08 | -1.82 | 25.48 |
| Fall 2007 | 19 | 32.84 | 6.87 | 11 | 35.73 | 7.56 | 0.31 | -1.04 | 19.39 |
| Spring 2008 | 9 | 36.00 | 6.44 | 23 | 33.96 | 5.21 | 0.41 | 0.85 | 12.32 |
| Fall 2008 | 17 | 35.71 | 4.62 | 23 | 37.65 | 5.27 | 0.22 | -1.24 | 36.81 |
| Spring 2009 | 16 | 35.56 | 5.09 | 19 | 35.21 | 7.92 | 0.88 | 0.16 | 31.02 |

Note: equal variances not assumed.

Table III. Independent *t*-tests.

Our hypothesis predicted that participation in international online collaboration would lead to a reduction of ethnocentric attitudes in college students, measured by the GENE scale. Given the

structure of our experiment, we expected statistically significantly lower GENE scores for the experimental group after the collaboration, in comparison to the control group. However, a paired samples *t*-test comparing pre- and post-test scores for each semester and each group revealed no statistically significant differences for the experimental pre- and post-test samples. For the control group samples, we found only three exceptions with statistically significantly higher post-test means: SVSU Fall 2007 and Spring 2009, and PUT Fall 2007 control groups (see Table IV).

| | n | Pre-test | | Post-test | | Sig. | t | df |
|--------------------------|----|----------|------|-----------|------|-------|-------|----|
| | | Mean | SD | Mean | SD | | | |
| SVSU | | | | | | | | |
| Fall 2006 Experimental | 16 | 29.06 | 6.30 | 30.03 | 6.02 | 0.20 | -1.36 | 15 |
| Fall 2006 Control | 27 | 31.02 | 7.63 | 31.59 | 6.72 | 0.37 | -0.91 | 26 |
| Spring 2007 Experimental | 18 | 28.78 | 8.06 | 28.89 | 8.32 | 0.93 | -0.09 | 17 |
| Spring 2007 Control | 64 | 28.02 | 7.01 | 28.45 | 7.33 | 0.38 | -0.88 | 63 |
| Fall 2007 Experimental | 19 | 30.53 | 6.50 | 30.58 | 7.14 | 0.96 | -0.05 | 18 |
| Fall 2007 Control | 99 | 29.76 | 6.40 | 31.40 | 7.64 | 0.002 | -3.24 | 98 |
| Spring 2008 Experimental | 19 | 29.21 | 7.42 | 28.26 | 5.92 | 0.42 | 0.83 | 18 |
| Spring 2008 Control | 66 | 30.58 | 6.57 | 30.61 | 6.50 | 0.96 | -0.05 | 65 |
| Fall 2008 Experimental | 20 | 27.68 | 5.54 | 26.42 | 6.26 | 0.27 | 1.15 | 18 |
| Fall 2008 Control | 35 | 29.77 | 6.28 | 30.51 | 6.30 | 0.29 | -1.07 | 34 |
| Spring 2009 Experimental | 21 | 27.81 | 5.34 | 28.10 | 5.12 | 0.85 | -0.20 | 20 |
| Spring 2009 Control | 66 | 29.42 | 5.69 | 31.02 | 7.79 | 0.02 | -2.38 | 65 |
| PUT | | | | | | | | |
| Fall 2006 Experimental | 14 | 33.64 | 5.58 | 37.14 | 5.57 | 0.063 | -2.04 | 13 |
| Fall 2006 Control | 13 | 35.62 | 7.72 | 40.38 | 7.68 | 0.054 | -2.14 | 12 |
| Spring 2007 Experimental | 16 | 31.44 | 6.71 | 34.69 | 7.27 | 0.053 | -2.10 | 15 |
| Spring 2007 Control | 13 | 36.08 | 6.91 | 36.85 | 4.63 | 0.56 | -0.59 | 12 |
| Fall 2007 Experimental | 19 | 32.84 | 6.97 | 33.47 | 7.00 | 0.49 | -0.71 | 18 |
| Fall 2007 Control | 11 | 35.73 | 7.56 | 37.82 | 7.33 | 0.08 | -1.95 | 10 |
| Spring 2008 Experimental | 9 | 36.00 | 6.44 | 34.00 | 6.27 | 0.35 | 0.99 | 8 |
| Spring 2008 Control | 23 | 33.96 | 5.21 | 32.74 | 5.70 | 0.13 | 1.56 | 22 |
| Fall 2008 Experimental | 17 | 35.71 | 4.62 | 34.94 | 8.51 | 0.52 | 0.65 | 16 |
| Fall 2008 Control | 23 | 37.65 | 5.27 | 37.43 | 5.98 | 0.86 | 0.18 | 22 |
| Spring 2009 Experimental | 16 | 35.56 | 5.09 | 37.19 | 7.56 | 0.36 | -0.95 | 15 |
| Spring 2009 Control | 19 | 35.21 | 7.92 | 36.11 | 6.91 | 0.40 | -0.86 | 18 |

Table IV. Paired samples *t*-tests.

| | Pair pre- and post-test experimental | | | Pair pre- and post-test control | | | Sig. | t | df |
|-------------|--------------------------------------|-------|------|---------------------------------|-------|------|------|-------|-------|
| | n | Mean | SD | n | Mean | SD | | | |
| SVSU | | | | | | | | | |
| Fall 2006 | 16 | -0.97 | 2.86 | 27 | -0.80 | 4.20 | 0.87 | -0.16 | 40.11 |
| Spring 2007 | 18 | -0.11 | 5.19 | 64 | -0.44 | 3.98 | 0.81 | 0.25 | 22.93 |
| Fall 2007 | 19 | -0.05 | 4.39 | 99 | -1.65 | 5.06 | 0.17 | 1.41 | 28.03 |
| Spring 2008 | 19 | 0.95 | 4.97 | 66 | -0.03 | 5.12 | 0.46 | 0.75 | 29.88 |
| Fall 2008 | 20 | 1.26 | 4.81 | 35 | -0.74 | 4.10 | 0.13 | 1.54 | 32.34 |
| Spring 2009 | 21 | -0.29 | 6.63 | 66 | -1.59 | 5.43 | 0.42 | 0.82 | 29.04 |
| PUT | | | | | | | | | |
| Fall 2006 | 14 | -3.50 | 6.43 | 13 | -4.77 | 8.03 | 0.57 | 0.45 | 23.01 |
| Spring 2007 | 16 | -3.25 | 6.20 | 13 | -0.77 | 4.68 | 0.23 | -1.23 | 26.88 |
| Fall 2007 | 19 | -0.63 | 3.86 | 11 | -2.09 | 3.56 | 0.31 | 1.05 | 22.60 |
| Spring 2008 | 9 | 2.00 | 6.04 | 23 | 1.22 | 3.74 | 0.72 | 0.36 | 10.50 |
| Fall 2008 | 17 | 0.76 | 4.84 | 23 | 0.22 | 5.89 | 0.75 | 0.32 | 37.51 |
| Spring 2009 | 16 | -1.62 | 6.81 | 19 | -0.89 | 4.55 | 0.72 | -0.37 | 25.39 |

Note: equal variances not assumed.

Table V. Independent samples *t*-test on 'gain' scores comparing experimental with control groups.

However, an independent samples *t*-test on pre- and post-test 'gain' scores comparing the experimental and control groups for all and, in particular, those three groups found no statistically significant 'gain' score difference between the samples (see Table V). This was confirmed by an additional one-way ANOVA test (the results of which are not included here). Therefore we reject our hypothesis that participation in a six-week student online collaborative project, conducted with different samples over a period of six semesters, has a statistically significant effect on decreasing ethnocentrism levels in either the American or the Polish student samples. This concurs with the results of a previous four-semester evaluation that additionally tested the effects of demographic control variables and the relationship between ethnocentrism and collectivism/individualism levels (Kurthen, 2009).

Discussion

The results from this exploratory quasi-experimental study need to be interpreted cautiously because of a number of theoretical and methodological limitations.

Theoretically, the results support the literature that in spite of an inherent awareness-creating quality of cultural exchanges, online intercultural communication 'often fails to achieve the intended pedagogical goals' (O'Dowd & Ritter, 2006, p. 624). Others have noted that 'exposure and awareness of difference seem to reinforce, rather than bridge, feelings of difference' (Kern, 2000, p. 256). Putting students in contact with one another does not necessarily guarantee intercultural learning, greater tolerance for diversity, or a reduction of stereotypical and ethnocentric attitudes.

One likely explanation for this is the complex nature of intercultural learning. According to Harris (2002, p. 56): 'collaborative activities are more difficult to do and to facilitate ... [Participants must] understand and incorporate plans, procedures, and perspectives different from their own. The truly collaborative process usually requires higher-level thinking and interaction'. In practice, this requires not only that students invest more planning, time, and commitment, but that instructors do so as well. But as Harris found in a review of early telecollaboration projects in the United States, these complexities are often overlooked and many online collaborations fail to achieve their goals.

The SVSU-PUT collaboration design – its short time span with specific group assignments and the accompanying necessity for mastering electronic tools – may actually preclude in-depth interaction and the development of self-critical intercultural awareness.

Methodologically, the assumption that an increase of intercultural awareness and a reduction of cultural stereotypes can be measured across cultures with the GENE ethnocentrism scale is based on face validity. Perhaps examination of the not-yet-measured long-term 'maturation' effects of collaboration through follow-up studies would yield different results. Further studies may conceptualize intercultural awareness differently or conclude that other and better measurement instruments exist or should be developed. Perhaps a methodological triangulation of qualitative and quantitative approaches is needed to investigate this complex topic.

Conclusion

Nonetheless, the study results suggest some cautionary conclusions that may have important implications for how GNLE projects are designed in the future. The literature is perhaps too optimistic about the awareness-increasing outcome of the 'form' (international online exchange), ignoring the importance of the specific 'content' and contextual factors influencing interaction, thereby leaving important questions to be examined. For example, to what degree do particular course practices and types of interaction affect collaboration and/or ethnic stereotyping of the 'other'? And how can the three factors described in Cramton & Hinds (2005) that enable workplace teams to transcend ethnocentrism – environment, practices, and tools – best be applied to student groups as well?

Answers to these questions have significant implications. As GNLEs become more common, perhaps alternative tools and methods beyond online/email/project-oriented interaction are necessary and should be developed to have a desired effect. For example, if timelines cannot be changed, can project topics and/or tasks be chosen to stimulate more intensive contact and

exchange of ideas between students, leading to better understanding of the 'other' culture(s)? Or perhaps the current tools and methods must be complemented by cultural awareness programs for those involved in such collaborations; if so, what should be included and what approaches would be most effective?

With multiple factors interacting, and the political, financial, and educational terrains always shifting, it may be difficult to isolate the crucial factors that impact ethnocentrism in student online collaborations. Recently, a literature of best practices in GNLEs has been emerging (Starke-Meyerring & Wilson, 2008). The difficulty is that individual collaborations may be complicated by many factors that cannot be changed: timelines, language barriers, maturity level and background of students, even technology access.

Should these factors prevent faculty from experimenting with online collaborations? We think not. Though attitude changes are difficult to measure, some observations and informal feedback from the students in the SVSU-PUT projects suggest that international collaborations can positively influence long-term intercultural awareness, though it is difficult to measure to what degree and for how long. Though in no semester of our study did we find a statistically significant decrease in ethnocentric attitudes, we also found no increase. The questions of how best to prepare the students involved, and how to evaluate such promising new forms of international interaction, suggest a need to further investigate these aspects.

Another important lesson for instructors involved in GNLE projects is the need to remain self-critically committed to the intended knowledge-making, boundary-expanding, and therefore culturally 'liberating' effects of international student collaborations. Enhanced understanding by all participants of the factors contributing to a reduction of cultural stereotyping and ethnocentrism will better prepare students to become global citizens, able to meet the challenges they will face in an increasingly intertwined and culturally diverse world.

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APPENDIX 1

Example of International Online Project Assignment

Intercultural Collaborative Project (Fall 2008)

The workplace of the twenty-first century will increasingly demand employees who bring a global perspective as well as multiple abilities to their work, including an understanding of world cultures, an ability to work cooperatively, and the capacity to integrate technology into many facets of their work. To develop this global perspective, students from Saginaw Valley State University (SVSU), USA, and Poznan University of Technology (PUT), Poland, will cooperate online to prepare a final project that will be based on research and an exchange of ideas and information.

In addition to the SVSU First Year Writing outcomes, the project is designed to achieve the following objectives in student learning:

- Develop an international perspective on current issues.
- Build cooperative skills in multinational groups.
- Increase competence in the use of technology in cooperative settings.
- Enhance research and writing skills in a cooperative context.
- For PUT students: enhance English-language skills through content – CLIL (content and language integrated learning) approach.

The project will have two components:

1. A wiki report that contrasts and compares an aspect of culture (such as education, health care, the job market, sources of energy, etc.) in Poland and the USA, based on research on the topic chosen by the group, with appropriate American Psychological Association (APA) in-text citations and a references page.
2. An oral class presentation using PowerPoint (PPT).

The project will be carried out by groups that include students from each university; groups will be arranged based on interest in a topic. Potential topics for contrast/comparison of the two cultures include:

Do International Online Collaborative Learning Projects Impact Ethnocentrism?

- climate change, weather patterns, natural disasters
- system of university education
- use of biofuels
- alternative energy – solar, wind, geothermal
- important/ outstanding national landmarks and monuments (no more than three per country)
- the role of blogs and social network websites in the culture
- computer games
- job market for college graduates in specific fields; salary and job benefits
- recycling
- tax systems
- popular music
- role of religion
- types of architecture
- types of investments (banks, stock market, bonds, etc.)

Each group will use the following tools available within the SVSU VSpace online course management system:

- Introductions for each university group, posted to a discussion forum (please include a photograph).
- For each topic group, another discussion forum available for file exchanges, posting information, etc. This will be the place to post information, links, graphics, and gathered by members of the group.
- For each topic group, a VSpace wiki to prepare the final group report, based on the information posted to the discussion forum. This will be the place to create the wiki that will be the official 'report' on the information gathered.
- For each topic group, a chat room that groups may use to confer.
- Note: Skype (Internet phone) is also available in the SVSU Student Technology Center.

Project Development

Individual Tasks

Each student will locate at least one authoritative article on the topic, read the article, and post a summary of the article with an APA citation for it to the group discussion forum by the scheduled date; each university pair of students will also identify an appropriate visual(s) or graphic that could be used in the wiki and the PPT class presentation.

Group Tasks

Choose one of these roles:

- (a) *Group Leader*: coordinate group activities to be sure due dates are met; edit final draft of wiki and PPT presentation.
- (b) *Discussion and Private Messages Forum Manager*: manage the gathering of information on the discussion forum (be sure summaries are clear and APA citations are included).
- (c) *Research Manager*: ensure that the wiki report and PPT presentation are based on adequate, authoritative research.
- (d) *Wiki Manager*: edit the report on the wiki.
- (e) *Graphics Manager*: choose and insert graphic(s) to be included in wiki and PPT presentation.
- (f) *PPT Developer*: prepare a PowerPoint presentation for groups in all three countries to present on scheduled dates.

Format for Final Report on Wiki

Your goal is to help students in both countries understand the similarities and differences between the countries on the topic you are investigating. Contrast/comparison means you will probably wish to organize the information on your wiki by countries.

Class Presentation

Each group will share its research with the classes in both countries via a group PPT presentation. Each presentation will have a 15-minute time limit. Note: an oral presentation is not merely a reading of the slides. Prepare a formal, rehearsed presentation that engages your audience.

Project Calendar

- 14 October: choose topic for project; contact group members to decide on focus and roles.
- 28 October: Post article summaries to discussion forum; begin wiki.
- 11 November: Have all content posted to wiki.
- 18 November: Draft of report due; submit outline and graphics to PUT students.
- 25 November: Report due.
- 25 November, 2 December: Class presentations.

APPENDIX 2
The GENE Scale

Please indicated the degree to which the statement applies to you by marking whether you: (5) *Strongly Agree* (SA) / (4) *Agree* (A) / are (3) *Neutral* (N) / (2) *Disagree* (D) / (1) *Strongly Disagree* (SD).

There are no right or wrong answers.

| SA | A | N | D | SD | |
|----|---|---|---|----|--------------------------------------------------------------------------------|
| 5 | 4 | 3 | 2 | 1 | 1. Most other cultures are backward compared to my culture |
| 5 | 4 | 3 | 2 | 1 | 2. My culture should be the role model for other cultures. |
| 5 | 4 | 3 | 2 | 1 | 3. People from other cultures act strange when they come into my culture. |
| 5 | 4 | 3 | 2 | 1 | 4. Lifestyles in other cultures are just as valid as those in my culture. |
| 5 | 4 | 3 | 2 | 1 | 5. Other cultures should try to be more like my culture. |
| 5 | 4 | 3 | 2 | 1 | 6. I'm not interested in the values and customs of other cultures. |
| 5 | 4 | 3 | 2 | 1 | 7. People in my culture could learn a lot from people of other cultures. |
| 5 | 4 | 3 | 2 | 1 | 8. Most people from other cultures just don't know what's good for them. |
| 5 | 4 | 3 | 2 | 1 | 9. I respect the values and customs of other people. |
| 5 | 4 | 3 | 2 | 1 | 10. Other cultures are smart to look up to our culture. |
| 5 | 4 | 3 | 2 | 1 | 11. Most people would be happier if they lived like people in my culture. |
| 5 | 4 | 3 | 2 | 1 | 12. I have many friends from other cultures. |
| 5 | 4 | 3 | 2 | 1 | 13. People in my culture have just about the best lifestyles of anywhere. |
| 5 | 4 | 3 | 2 | 1 | 14. Lifestyles in other cultures are just not as valid as those in my culture. |
| 5 | 4 | 3 | 2 | 1 | 15. I'm very interested in the values and customs of other cultures. |
| 5 | 4 | 3 | 2 | 1 | 16. I apply my values when judging people who are different. |
| 5 | 4 | 3 | 2 | 1 | 17. I see people who are similar to me as virtuous. |
| 5 | 4 | 3 | 2 | 1 | 18. I do not cooperate with people who are different. |
| 5 | 4 | 3 | 2 | 1 | 19. Most people in my culture just don't know what is good for them. |
| 5 | 4 | 3 | 2 | 1 | 20. I do not trust people who are different. |
| 5 | 4 | 3 | 2 | 1 | 21. I dislike interacting with people from different cultures. |
| 5 | 4 | 3 | 2 | 1 | 22. I have little respect for the values and customs of other cultures. |

APPENDIX 3
Student Survey

PUT-SVSU (Fall 2008)

Dear Student,

We would like to invite you to give your opinion about cultural characteristics for a Polish-American research project about the benefits of transnational student online collaboration. Responses will be kept anonymous. Your participation is strictly voluntary and you have the right to discontinue participation. The information will be used for teaching, research, and training purposes only. Thanks for your help!

Prof. Diane Boehm (Saginaw Valley State University), Prof. Lilianna Aniola-Jedrzejek (Poznan University of Technology), Prof. Hermann Kurthen (Grand Valley State University)

PLEASE CIRCLE YOUR ANSWER

1. How long have you been studying at PUT or SVSU?

- (1) First year
- (2) Second year
- (3) Third year
- (4) Fourth year
- (5) Other (please specify)

2. What is your gender?

- (1) Male
- (2) Female

3. What is your age?

4. Please describe your ethno/national background:

- (1) Polish (from Poland)
- (2) Caucasian-American
- (3) African-American
- (4) Asian-American
- (5) Hispanic-American
- (6) Other (please specify)

5. Please describe the residential area in which you have spent most of your life:

- (1) metropolitan city with 500,000+ population
- (2) big city with 100,000 to 500,000 population
- (3) medium city with 50,000 to 100,000 population
- (4) small city with 5000 to 50,000 population
- (5) village with under 5000 population
- (6) rural area outside of villages
- (7) Other (please specify)

6. Which of the following news sources do you rely on most often? Rank from 1 (most frequent) to 7 (least frequent).

- () Broadcast or cable television
- () Public television or radio
- () Newspapers
- () News magazines
- () Radio
- () The Internet
- () Word of mouth
- () Other (Please specify)

7. In politics today, do you think of yourself as

- (1) More left or social-democratic leaning
- (2) Middle of the road or liberal leaning
- (3) More right or conservative leaning
- (4) Other (please specify)

8. Do you identify yourself with an organized religion or have a spiritual orientation?

- (1) No
- (2) Yes (please describe)

9. How often do you attend religious services?

- (1) Never
- (2) Rarely
- (3) Occasionally (monthly)
- (4) Regularly (daily, weekly)

10. What is the size of your immediate family (for example, father, mother, siblings, but excluding yourself)?

11. What is your major? (please specify)

Student identification number:

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