The use of Web 2.0 technology to help students in high school overcome ethnocentrism during Global Education Projects: A cross-cultural case study.

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This study explored whether the integration of Web 2.0 technologies into flat classroom projects affected the level of student ethnocentricity found in cross-cultural classrooms during global collaborations. The study used the General Ethnocentrism survey, interviews of classroom coordinators, discussions among students on an online wiki, and responses to a student questionnaire as primary data sources. Findings indicate that Web 2.0 technology helped impede student ethnocentrism and encouraged positive working relationships related to student ethnocentrism during the global collaborations that were investigated. Additionally, it was discovered during these global collaborations that using Web 2.0 technology helped reduce or at least maintain a minimal level of student ethnocentrism. The authors provide guidance to administrators and classroom teachers on the use of Web 2.0 technology to help reduce student ethnocentrism in global collaborations.

In an era defined by terrorism, racism, and unprecedented globalization, we believe that students should learn to become responsible global citizens (Bliss, 2005a). Current K-12 curricular initiatives are dominated by methods developed in the nineteenth century and most schools fall short of providing their students with a globally oriented education that will enable them to understand their place in the world and make effective judgments regarding their fellow students (Hanvey, 2004; Mangram & Watson, 2011). Consequently, a growing number of educators and researchers are being challenged to re-invent schools by implementing a paradigm shift that supports the permeable frontiers and boundaries and multi directional relationships of a 21st-century education that promotes using 21st-century skills – collaboration, in particular—in the classroom (Bliss, 2005b).

Global collaboration is a twenty-first-century skill that enables students from more than one country to work together to achieve a goal and sustain relevancy (Passe & Patterson, 2011). In order to develop this skill, students need opportunities to participate in global education. Web 2.0 and other Internet-based technologies allow students to participate in these opportunities much more easily than in years past. There are, however, potential problems with global education such as lack of teacher skills and resources, not being an acknowledged curriculum area, national politics, religion and cultural isolation. This study focuses on ethnocentrism, which represents an impediment to the development of this global collaboration skill (Bliss, 2005a).
Purpose of the Study

The purpose of this study was to examine four global education projects (flat classroom projects) to determine how the use of wikis by high schools students involved in the projects affected the level of ethnocentrism exhibited by these students. Specifically, the researchers looked for ethnocentrism represented by a phenomenon that could potentially shape student attitudes and relationships. This observation is important because ethnocentrism can perpetuate prejudice and stereotypes against certain students in a classroom during flat classroom projects.

Flat classroom projects are global education projects that use wikis via the Internet to join students from classrooms around the world to work collaboratively. The primary goal of these projects is to connect cross-cultural classrooms through the use of web-based technologies or in this case a wiki. The projects use curriculum integration and alignment to common core standards to enable teachers to customize class outcomes to suit their schools with the intention of demonstrating the power of the Internet to bring geographically diverse students together to create and share ideas (Lindsay & Davis, 2012).

The four flat classroom projects we studied were the Flat Classroom Project 11-3 (implemented in the fall of 2011), two Net Generation Education Projects (spring of 2009 and the spring of 2010), and the Horizon Project (spring of 2008). These flat classroom projects involved high school students from several countries, including the United States, Pakistan, Canada, South Korea, and Qatar. For each of the flat classroom projects, the participating high school students were placed in small, cross-cultural groups of approximately four to 20 members from various parts of the world. For example, the project coordinators selected students from different countries to form a group and the students in each group would communicate using a wiki via the Internet. Additionally, each group had a classroom coordinator to help facilitate the classroom environment.

The assignments given to students in each group in all four projects were similar in nature: each group had to use a wiki to collaborate and discuss a range of topics. Students in the groups participating in the Horizon Project 2008 examined topics related to the educational contents of the Horizon Report of 2008. Students in the groups participating in the Net Generation Education Project examined the educational trends outlined by Tapscott (2008) that demonstrate the world-changing power of the Net Generation and show how its members are rethinking and influencing education, home life, and citizen participation. Students in the groups participating in the Flat Classroom project 11-3 examined ‘flat’ topics—developments that level the global playing field in industry, education, and technology—outlined in Friedman (2007). The desired outcomes for each group at the end of each project were written collaborative reports in wiki environments and a short one-to-five-minute student-generated video that helped demonstrate student knowledge of the required topics (Lindsay & Davis, 2012).

Theoretical Framework

We adopted the theoretical framework for this study based on work by Papert (1993) and Levinson (1950). Papert’s research is based on constructionism, the view that students tend to learn more effectively when they construct personally meaningful artifacts using various forms of technology. These artifacts are developed from the meaningful experiences of twenty-first-century students who have grown up in an era in which computers and digital technologies are ubiquitous. We are interested in these students because we wonder whether a student who regularly uses such technology experiences or practices ethnocentrism to the extent that it has occurred in past generations. Papert (1993) suggested that taking advantage of the technological revolution may improve learning environments because of the advantages associated with using digital information technologies. Applying Papert’s ideas to this study, we posit that technology plus constructivist pedagogy allow for constructivist-type activities.
The theoretical framework of the study also draws on Levinson’s (1950) concept of ethnocentrism. For the purpose of this study, we defined ethnocentrism as a phenomenon that causes some people to treat others prejudicially based on ethnic group membership. When ethnocentrism occurs, members of ‘out groups’ experience negative imagery and hostile attitudes from ‘in groups’ (Levinson, 1950; Roediger, 1999). We explored ethnocentrism by determining the level that existed in the participating classrooms prior to the wiki projects and sought to learn whether the use of Web 2.0 technology helped to reduce it. We chose Levinson’s concept to inform this study because it provided a foundation for measuring the level of ethnocentrism in a learning environment.

**Review of Literature**

**Global Education**

Global education can open students’ eyes to what is going on in the world and it is up K-12 school leadership to implement and integrate it and use technology as the vehicle to deliver it (Abdelrahman, El-Subhieen, Jwaifell, 2012; Pudas, 2009). Additionally, global education is important because students live in an interdependent world and require education that includes the study of nations, cultures, and civilizations and how they interconnect (e.g., Bliss, 2005; Hanvey, 2004; Zahabioun, Yousefy, Yarmohammadian, & Keshtiaray, 2013). Therefore, teachers – who are the heart and soul of every education system—need to promote the engagement of their students with a global environment, to encourage a strong intervention to revise their curricula to integrate this new phenomenon, and to take it upon themselves to develop global workers with an emphasis on global citizenship, cultural tolerance, and effective stewardship of the world’s resources (Mangram & Watson, 2011; Richardson, 2012; Sadruddin, 2013; Tamo, Jubani, & Gjokutaj, 2012). These perspectives led us to the projects we studied because one of the major goals of the Flat Classroom, Net Generation Education, and Horizon projects is to allow students to successfully perform in a cross-cultural environment and begin their journey of becoming global citizens.

**Global Collaboration**

Recent research indicates that online applications have significantly influenced global collaborative learning environments. Frey (2008) found that an online, project-based graduate practicum helped to facilitate in-service teacher professional growth. Others have found similar results (e.g., Azeta, 2008; Kadirire, 2007; Lee, 2007; Quitadamo, Brahler, & Crouch, 2009; Schellens, Van Keer, & Valcke, 2005). Their results reinforce the proposition that online applications can play a vital role in the success of a collaborative learning environment. We hope to build on these results by examining how the integration of an online application, such as a Web 2.0 tool, could be used in a global collaborative environment to help reduce ethnocentrism.

**Ethnocentrism**

Understanding ethnocentrism’s role in shaping student attitudes and relationships may help educators improve the learning environment (Neuliep, 2002). Ethnocentrism causes and can perpetuate prejudice and stereotypes against certain students in a classroom or motivate discrimination directed against certain students based on their identities as members of specific ethnic groups or their cultural backgrounds (Philippou, 2007).

Levinson (1950) and Roediger (1999) distinguished representations of the roles of in-groups and out-groups in ethnocentrism. According to Levinson (1950), an in-group is viewed as dominant and positive, whereas an out-group projects a negative image and submits to the in-
group. Similarly, Roediger (1999) portrayed membership in an in-group as advantageous and membership in an out-group as disadvantageous. Roediger applied his analysis of ethnocentrism to relations between White people (the in-group) and Black slaves (the out-group) in the United States during the eighteenth and nineteenth centuries. He argued that ethnocentrism during that period developed through the social construction of all Whites in America into a single ethnic group. For example, Irish Americans and Italian Americans, two White ethnic groups, were united together into the White race and conceptually separated from Black slaves. Therefore, being White (in the in-group) was advantageous and being a Black slave (in the out-group) was disadvantageous.

To conduct our study we wanted not only to define ethnocentrism but also to measure it. Greenberg and Rosenfield (1979) measured ethnocentrism with slides showing White and African American faces that were rated by study participants with reference to several personality traits. Shimp and Sharma (1987) measured consumer ethnocentrism by focusing on the beliefs of American consumers. More recent studies measure consumer ethnocentrism in the same manner (Huang, Phau, Lin, Chung, & Lin, 2008; Saffu & Walker, 2005; Wong, Polonsky, & Garma, 2008). Their measurement tool consisted of the Likert-style CETSCALE, which was designed to measure the rate of consumer ethnocentrism. Grant and Brown (1995) sought to determine how social identity fosters ethnocentrism using a seven-point bipolar semantic differential scale that assessed stereotypes and attitudes. Finally, Judd, Park, Ryan, Brauer, and Kraus (1995) used ‘thermometer’ ratings to measure warmth towards certain groups, with the results regarded as a measure of ethnocentrism.

Although efforts to measure ethnocentrism have focused increased attention on this issue (Saffu & Walker, 2005; Wong et al., 2008), there remains a longstanding call to develop a more reliable ethnocentrism scale. Neulip and McCroskey (1997) were among the first to announce this need through their development of two scales: the United States ethnocentrism scale (USE), which determined American’s positive and negative responses to ethnocentrism, and the GENE, a general ethnocentrism scale that assessed ethnocentric responses from anyone, regardless of culture. Neulip and McCroskey indicated that both scales successfully measure ethnocentrism and prove to be reliable and valid. However, their findings indicated that the USE scale tapped into US patriotism, which makes it less useful as an ethnocentrism-only scale. On the other hand, the GENE scale successfully met all the necessary requirements to measure ethnocentrism and, as a result, was considered the recommended scale for assessing ethnocentrism. We therefore chose the GENE scale to measure ethnocentrism in this study.

Web 2.0 Technologies

Thomas and Li (2008) asserted that 21st-century students have changed fundamentally from their predecessors due to the advent of technology, ubiquitous learning environments, and the volume of information they encounter. After examining students and teachers in a school initiative that used Web 2.0 technologies in high school math courses, they determined that these digital natives embraced and supported Web-based educational innovations.

This finding that 21st-century students use a range of skills supports Papert’s (1993) vision that individual nations should address the learning capacities of their people by designing educational institutions to develop the population’s knowledge and skills. Papert and other scholars suggest that technologies such as Web 2.0 can support such a development process. O’Reilly (2007) offered core competencies to demonstrate the key principles of Web 2.0 such as services with cost-effective scalability, hard-to-recreate data sources that get richer over time, and software above the level of a single device. Harris and Rea (2009) characterize Web 2.0 as a web-based, collaborative platform that generates, repositions, and consumes content.

The Web 2.0 tool that was primarily used during the flat classroom projects and was examined in this study was the wiki (a Web page or site that can be modified by all users). Peterson...
Robertson (2008) and Parker and Chao (2007), show how wikis have had some success in expanding modern classrooms and supplementing traditional ways of learning. Peterson’s (2009) research consisted of examining a wiki used during an analysis course. The wiki was used to post course materials and projects, to provide a discussion board, and to develop a glossary of terms. This research suggested that classroom operations were expanded and improved due to students’ being able to see their peers’ projects and having exposure to collaboratively made glossaries. Additionally, the research highlighted how students were receptive to doing something different, so improvement resulted from this occurrence.

Robertson (2008) examined wiki use and focused on the attitudes of 14 vocational teachers while they were using wikis to encourage online collaboration in a 13-week teacher education program. He found the best features of using the wiki included a moderate to high level of ease of access and use. Flexibility was a key determinant in this case because participants could access and use the wiki at any time. The ability to edit and track information from a central document, provide a hard copy report, and create and edit from all group members were all seen as positives. On the other hand, he found detrimental features consisting of the wiki’s limited ability to accept involved graphics and the need to improve editing, initial setup, and formatting functions. Additionally, being able to change wiki content without group discussion, lack of participation from all group members, and the need for a reference guide produced by wiki experts were seen as disadvantages. Robertson (2008) found that 64% of the participants recommended continued use of the wiki during the learning process, whereas the remaining participants were unsure. From the teacher’s perspective, 93% of the participants were in favor of using a wiki in their own teaching process within the next 12 months. Therefore, support for wiki use during the teaching process was shown to have a great deal of potential and optimism among the teachers in the study.

Parker and Chao’s (2007) research focused on the contribution of wikis to various learning paradigms and recommended additional usage. They found that the wiki expanded the classroom and established an atmosphere that is best suited for cooperative learning because the students worked collectively to support individual learning. They claimed that the results of this type of effort led to enhanced learning by students because skills such as positive interdependence and individual accountability allowed students to achieve at higher levels and retain information longer than their traditional counterparts. Their findings also pointed out how the use of wikis in writing assignments improved writing skills.

Cross-Cultural Classrooms

The research literature on cross-cultural classrooms identifies several cross-cultural classroom activities that are occurring in today’s educational environment. Shin and Koh’s (2008) analysis of American and Korean school teachers who taught students in an urban school district in the United States and in a city school district in Korea, respectively, suggested that teachers of cross-cultural classrooms should understand and anticipate that they will encounter a range of problems with students of distinct cultures. The results of the study supported the importance of teacher preparation to the success of cross-cultural classrooms.

Sturz and Kleiner (2005) examined teachers of cross-cultural classrooms and found that techniques that allow teachers to understand stereotypes and prejudice were extremely beneficial. Ramsey (2005) and Shore (2007) both offered models to analyze cross-cultural classrooms. Ramsey argued that increased understanding of multicultural dynamics and productivity on the part of teachers in a cross-cultural classroom will in turn increase student awareness of the same phenomena. Similarly, Shore encouraged the use of a three-phased model to increase student awareness. Massie and Dillon (2006a; 2006b) suggested that improving sound-field amplification in a cross-cultural classroom could improve operations. This is a unique suggestion because none of the other findings actually cited physical qualities in their recommendations.
O’Neill’s (2007) study involved American fifth graders and Korean sixth graders and explored the development of these students while participating in International Virtual Elementary Classroom Activities (IVECA). The findings indicated that an online contact management system improved intercultural competence and helped student performance. Volkema and River (2008) and Shandomo (2009) both identified a smaller capacity by focusing only on using basic e-mails between students from the United States and Australia and a pen pal project involving elementary students in an urban professional development school paired with preservice teachers to communicate in a cross-cultural environment. Although students resisted using e-mail because they preferred to speak face-to-face and build rapport, it was still a positive effort to use online strategies in this environment. In the same manner, the elementary students’ cultural and social awareness increased from the pen pal project.

The recommendations listed above are important to the study because they exemplify how research supports positive techniques designed to help students and teachers prosper in cross-cultural environments. They identify many creative ways of improving the cross-cultural classroom environment and the final analysis reveals that a combination of improved pedagogies, increased multicultural content, appropriate models, and even sound amplification can be considered when attempting to improve these classroom environments. With this information in hand, the goal was to analyze yet another strategy for reducing ethnocentrism in a cross-cultural classroom. The wiki, a Web 2.0 technology, constituted this new strategy.

Method

Method and Participants

A mixed-method case study methodology was used in this study. We used the GENE Survey found in Neuliep (2002) for quantitative analysis—eliciting responses from 22 high school students ranging in age from 16 to 18 and from the following countries: the United States, Germany, Japan, and South Korea. We tested whether there was a significant mean difference based on nationality in student ethnocentrism scores following participation in Flat Classroom project 11-3 in 2011, after controlling for ethnocentrism scores prior to participating in the project. Twelve students were US citizens and 10 students were not US citizens. The range of possible ethnocentrism scores was 15–75. Low scores indicated a lower level of ethnocentrism and high scores indicated a higher level of ethnocentrism. Descriptive statistics for student scores prior to and following participation in Flat Classroom 11-3, by nationality, are provided in Table 1.

<table>
<thead>
<tr>
<th>Nationality</th>
<th>Time Point</th>
<th>n</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Skew</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>Pre</td>
<td>12</td>
<td>21</td>
<td>62</td>
<td>37.58</td>
<td>12.59</td>
<td>0.71</td>
<td>0.64</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>12</td>
<td>20</td>
<td>48</td>
<td>34.58</td>
<td>9.31</td>
<td>-0.32</td>
<td>0.64</td>
</tr>
<tr>
<td>NOT USA</td>
<td>Pre</td>
<td>10</td>
<td>30</td>
<td>46</td>
<td>35.00</td>
<td>5.50</td>
<td>1.08</td>
<td>0.69</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>10</td>
<td>20</td>
<td>37</td>
<td>32.30</td>
<td>5.14</td>
<td>-1.75</td>
<td>0.69</td>
</tr>
</tbody>
</table>

For the qualitative portion of this study, we engaged a convenience sample of four elementary school classroom coordinators (teachers) because of their participation in the Net Generation Education project 2010. Each of the four classroom coordinators we interviewed had over five years of experience using Web 2.0 tools (wikis) in the classroom for educational purposes and, therefore, each of them was well versed in using such tools as a teaching mechanism in the
classroom. The four classroom coordinators, all of whom were White females, ranged in age from the late thirties to the late forties. The study took place online for the most part and their classrooms were physically located in Georgia, Qatar, Canada, and South Korea, respectively, during the second semester of the 2010 academic year.

In addition to the interviews conducted during the qualitative phase of the study, a convenience or purposive sample of approximately 100 students from the Horizon 2008 project was invited to fill out a questionnaire both before and following their participation in the project (see Tables 2 and 3 for breakdown of students). Samples of the questions from the student questionnaire included:

1. How productive do you think you will be in the future working with a student from another county
2. How likely are you to be willing to socialize in the future with a student from another country?
3. What was your greatest challenge doing this project?
4. What are your suggestions for improving this project in the future?

Also, all written communications from the 300 students who participated in the 2009 Net Generation Education project wiki were collected. To ensure confidentiality, participating students were not personally identified. In both the Horizon 2008 and the 2009 Net Generation Education projects, the students – ranging in age from 16 to 18 – participated in the study on a non-contact basis, primarily through online activity during their respective academic years.

Table 2
Breakdown of Students Who Provided Responses during the Beginning of the Horizon 2008 Project

<table>
<thead>
<tr>
<th>Number of Students</th>
<th>Name of School/Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Camilla HS/Westwood, GA, USA</td>
</tr>
<tr>
<td>9</td>
<td>Goodland HS/Goodland, KS, USA</td>
</tr>
<tr>
<td>10</td>
<td>Qatar Academy/Doha, Qatar</td>
</tr>
<tr>
<td>17</td>
<td>American School of Barcelona/Barcelona, Spain</td>
</tr>
<tr>
<td>23</td>
<td>Baccalaureate School of Global Education/New York, NY, USA</td>
</tr>
<tr>
<td>11</td>
<td>Presbyterian Ladies College/Melbourne, Australia</td>
</tr>
<tr>
<td>12</td>
<td>Vienna International School/Vienna, Austria</td>
</tr>
</tbody>
</table>

Research Questions
The following research questions guided our study:

1. Is there a difference in Ethnocentrism by Nationality Type (non-US, US)?
2. What factors in the Net Generation Education/Horizon Project encourage or impede the level of ethnocentrism?
Table 3

**Breakdown of Students Who Provided Responses towards the end of the Horizon 2008 Project**

<table>
<thead>
<tr>
<th>Number of Students</th>
<th>Name of School/Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Camilla HS/Westwood, GA, USA</td>
</tr>
<tr>
<td>27</td>
<td>Goodland HS/Goodland, KS, USA</td>
</tr>
<tr>
<td>10</td>
<td>Qatar Academy/Doha, Qatar</td>
</tr>
<tr>
<td>6</td>
<td>American School of Barcelona/Barcelona, Spain</td>
</tr>
<tr>
<td>9</td>
<td>Baccalaureate School for Global Education/New York, NY, USA</td>
</tr>
<tr>
<td>13</td>
<td>Presbyterian Ladies College/Melbourne, Australia</td>
</tr>
<tr>
<td>1</td>
<td>Vienna International School/Vienna, Austria</td>
</tr>
<tr>
<td>7</td>
<td>Gakuen HS/Kyoto, Japan</td>
</tr>
<tr>
<td>16</td>
<td>The Glenbrook Academy of International Studies/Glenbrook, II, USA</td>
</tr>
</tbody>
</table>

**Data Collection and Analysis**

Data were collected using the GENE survey from the 2011 Flat Classroom 11-3 project, student questionnaires from the Horizon 2008 project, all written communications from students posted on the 2009 Net Generation Education project wiki, and in-depth interviews with the classroom coordinators (adults/teachers in these classrooms) who participated in the 2010 Net Generation Education project.

Regarding data collected from the GENE survey, an analysis of covariance (ANCOVA) was used to test the research question. The independent variable was nationality with two levels (USA or Not USA), the dependent variable was aggregate ethnocentrism score after participating in the course, and the covariate was aggregate ethnocentrism score prior to participating in the course. The ANCOVA assumptions were tested prior to the analysis. All assumptions were met. The main effect of nationality (USA or Not USA) was not significant ($F[1, 19] = .122, p = .730$, partial $\eta^2 = .006$), indicating that after controlling for pre-course ethnocentrism scores, there was not a significant mean difference in post-course ethnocentrism scores based on nationality. After controlling for pre-test scores the estimated marginal means for post-ethnocentrism scores were 33.90 for USA students and 33.12 for non-USA students (see Figure 1).

A paired sample t-test was also conducted to determine if ethnocentrism scores were, overall, significantly lower (indicating less ethnocentrism) after the course. The test was borderline significant ($t[21] = 2.0884, p = .050$), indicating that ethnocentrism scores across both nationalities were significantly lower after the course ($M = 33.55, SD = 7.62$), compared with what they were before the course ($M = 36.41, SD = 9.88$).

Data collected from the pre- and post-participation questionnaire associated with the Horizon 2008 project (approximately 100 students responded) as well as the written communications posted on the 2009 Net Generation Education project wiki (300 students participated) were analyzed to provide a foundation for the in-depth interviews. Additionally, data from the GENE survey, the student questionnaire, and the wiki were reanalyzed following interviews to identify words or phrases that could be categorized or themed in support of the data from the interviews. Discrepancies that emerged from the data analysis were highlighted and clarified during member checking. After data from the original in-depth interviews were transcribed and analyzed, the classroom coordinators were probed in greater detail regarding their
responses. Follow-up interviews were conducted to investigate further and for member checking. Pertinent information from the follow-up interviews was transcribed for analysis.

Figure 1. Plot of estimated marginal means for post-course ethnocentrism scores, after controlling for pre-course ethnocentrism scores, by nationality (USA or Not USA).

Levels of ethnocentrism exhibited by students were also measured during data analysis. First, ethnocentrism was measured issuing the pre- and post-course GENE surveys of the 22 students during the Flat Classroom project. Then, ethnocentrism among the participants in the Horizon 2008 and 2009 Net Generation Education projects were measured. The measurements for ethnocentrism reflected criteria based on Philippou’s (2007) definition and items from the Neuliep (2002) GENE survey (see Table 4).
<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Minimum Level of Ethnocentrism (MinLE)** | 1. Actions generate a low level of prejudice against other students and have minimal effect.  
2. Actions generate few stereotypes against other students and have a negligible effect.  
3. Actions exhibit a slight level of discrimination directed against other students based on their ethnic group and background and have a negligible effect.  
4. Actions of a student from one culture relate negatively only slightly to those of a student from another culture based on the GENE survey items that relate to the cultures of various parts of the world. |
| **Medium Level of Ethnocentrism (MedLE)** | 1. Actions generate a moderate level of prejudice against other students and classroom coordinator intervention is warranted.  
2. Actions generate a moderate level of stereotypes against other students and classroom coordinator intervention is warranted.  
3. Actions exhibit a moderate level of discrimination directed against other students based on their ethnic group or background and classroom coordinator intervention is warranted.  
4. Actions of a student from one culture relate moderately negatively to those of a student from another culture based on the GENE survey items that relate to cultures of other parts of the world and classroom coordinator intervention is warranted. |
High Level of Ethnocentrism (HighLE)

1. Actions generate strong prejudice against other students and school administrator intervention is warranted.
2. Actions generate strong stereotypes against other students and school administrator intervention is warranted.
3. Actions exhibit strong discrimination directed against other students based on their ethnic group and background and school administrator intervention is warranted.
4. Actions of a student from one culture relate strongly negatively to those of a student from another culture based on the GENE survey items that relate to the cultures of various parts of the world and school administrator intervention is warranted.

Results

Data were analyzed for themes and patterns in reference to the two research questions. The questions focused on discovering how Web 2.0 technologies influence the working relationships of students with other students, and whether the use of these technologies relates to the level of ethnocentrism in cross-cultural classrooms during the flat classroom projects under study. The response to research question 1 that resulted from the GENE survey was triangulated with the responses from research question 2 that resulted from a questionnaire, wiki discussions, and original and follow-up interviews with four classroom coordinators (adults/teachers in these classrooms). Based on this triangulation, we were able to generate common themes and patterns.

Themes: Research Question 1

Research Question 1: Is there a difference in Ethnocentrism by Nationality Type (non-US, US)? Results from the GENE survey data analysis indicated that there were not significant mean differences in ethnocentrism scores based on nationality. Across all students, ethnocentrism scores were relatively low at both time-points (average scores across both groups were below the scale mid-point-neutral), but the post-course scores were significantly lower than the pre-course scores, indicating that participation in the course reduced ethnocentrism for all students, regardless of nationality.

Themes: Research Question 2

Research Question 2: What factors in the Net Generation Education/Horizon Project encourage or impede the level of ethnocentrism? For this study, we considered any factor that encouraged ethnocentrism to be a factor that promoted ethnocentrism. On the other hand factors that impeded ethnocentrism were seen to prevent ethnocentrism. Eight themes that impeded and
seven themes that promoted ethnocentrism emerged during these projects (see Table 5) and the use of Web 2.0 technologies heavily influenced both sets of themes. Furthermore, it was discovered that using Web 2.0 was directly responsible for the result that the impeding themes overwhelmed the encouraging themes. Finally, teaching strategies were put in place to address the promoting themes succeeded, which helped to explain why the overall level of ethnocentrism was considered to be at a minimum during these projects.

Table 5
Research Question and Themes

Research Question 2: What factors in the Net Generation Education/Horizon Project encourage or impede the level of ethnocentrism?

Themes:

- Insufficient training and preparation of participating students encouraged ethnocentrism
- Inexperienced classroom coordinators encouraged ethnocentrism
- Lack of resources encouraged ethnocentrism
- Using colloquialisms and native language encouraged ethnocentrism
- The effects of events such as the terrorist attacks on September 11, 2001, encouraged ethnocentrism
- Parental influence encouraged ethnocentrism
- The effect of exposure to popular media encouraged ethnocentrism
- Preparing students to work in multicultural environments online impeded ethnocentrism
- Ensuring student respect and awareness impeded ethnocentrism
- Having students who were well versed in social networking impeded ethnocentrism
- Monitoring Web 2.0 technology to follow what the students were saying impeded ethnocentrism
- Using Web 2.0 technology to help students connect and understand each other impeded ethnocentrism
- Educators’ giving students guidance, rules, and clear expectations impeded ethnocentrism
- Student understanding of the global collaboration/Web 2.0 process impeded ethnocentrism
- Having experienced classroom coordinators impeded ethnocentrism

Discussion

We undertook this study in acknowledgment of the history of ethnocentrism and the potential for ethnocentrism to develop in contemporary technology-intensive classroom environments. We wanted to determine whether 21st-century high school students who participate in cross-cultural learning environments develop and experience increased levels of ethnocentrism. We found the need for such a study even greater after our literature review
revealed no studies have focused on how Web 2.0 technology is related to ethnocentrism. This study was, therefore, designed to fill a gap in the research on the effects of common practices of high school students who use Web 2.0 tools on ethnocentric behaviors and attitudes in cross-cultural learning environments regarding working relationships among students.

We used two research questions to guide the study. The process used for keeping track of data and emerging themes consisted of collecting the relevant data and findings pertaining to each of the research questions by organizing data from the research questions and data sources from four separate flat classroom projects that were held at different times and revealed distinct sets of data in a triangulation matrix. Triangulation was accomplished by reviewing and comparing data from this matrix. We used the emerging themes from each data source in a triangulated fashion as a component to form the integrated whole to assess how student use of wikis that were created by the project designers and integrated with the flat classroom projects under study affected student ethnocentrism. Component one represented the response to research question 1, which resulted from the GENE survey (Neuliep, 2002) and indicated that the level of ethnocentrism was at a minimum during the Flat Classroom 11-3 project and participation in the project reduced ethnocentrism for all students, regardless of nationality.

The responses to research question 2 were comprised of the results of the data analysis from the original and follow-up interviews with four classroom coordinators (adults/teachers in these classrooms), student questionnaires, and wiki discussions, and represented components two thru four. Component two resulted from the original and follow-up interviews with four classroom coordinators (adults/teachers in these classrooms) and indicated that the level of ethnocentrism was at a medium or higher level at the beginning of the Net Generation Education project 2010, but after the first two weeks or so of the global collaboration it dropped to a minimum level.

We found that the other two data sources, from the Horizon project 2008 and Net Generation Education project 2009, supported the classroom coordinators’ majority opinion that the level of ethnocentrism was at a minimum during these global collaborations and represents components three and four. Component three resulted from the responses to the questionnaire from the Horizon 2008 project and indicated that a minimum level of ethnocentrism was detected in the responses to the questionnaire. This conclusion was based on the criteria for measuring the level of ethnocentrism shown in Table 1 that includes the GENE scale, and the fact that no teacher involvement was required, and thus, all of the responses were categorized as expressing a minimum level of ethnocentrism. Component four resulted from the online wiki discussion review of Net Generation Education project 2009 and indicated that a minimum level of ethnocentrism was found because ethnocentrism was detected in only one out of the six groups and, even when it was detected, the ethnocentric comments were determined to possess a minimum level of ethnocentrism based on the criteria from Table 1, which include the following item from the GENE scale: When students think that other cultures should try to be more like their own cultures, some ethnocentrism is involved.

As a result of using the emerging themes from each data source in a triangulated fashion, we were able to establish four components. These components helped to form the integrated whole indicating that the use of wikis by students, when integrated with the flat classroom projects, helped to reduce ethnocentrism or at least maintain a minimal level of ethnocentrism. As such, we encourage the use of Web 2.0 tools during similar collaborations in order to help teachers manage issues associated with ethnocentrism. However, we cannot definitively assert that the use of Web 2.0 tools alone reduces the level of ethnocentrism among students. More research will be needed to affirm that proposition. We can, however, say that the use of Web 2.0 tools did not increase the level of ethnocentrism during any of these global projects.
Conclusion

Ethnocentrism, when left unmonitored, can perpetuate prejudice and stereotypes against certain students in a classroom. It can also engender discrimination against certain students on the basis of their ethnic groups or backgrounds. Additionally, educational leaders are continually confronting issues associated with increased levels of classroom diversity such as racial, cultural, and ethnic tensions in schools. If not adequately addressed, these issues could lead to increased levels of ethnocentrism.

The findings of this study indicate that Web 2.0 technology helped, to a measurable extent, to impede student ethnocentrism and promoted positive working relationships that were related to student ethnocentrism during the global collaborations that were investigated. Additionally, it was discovered during these global collaborations that, based on the results of the GENE survey that was administered during the study, the thoughts of the classroom coordinators who were interviewed, the results of the review of student wiki discussions, and student responses to a questionnaire, using Web 2.0 technology—wikis, in particular—helped to reduce or at least maintain a minimal level of student ethnocentrism.

References


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