Evaluating the Impact of Two Globalization Projects on College Students' Cultural Competence and Cultural Intelligence (CQ)

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Abstract

Cultural competence and CQ involve awareness of cultural similarities and differences, knowledge of differences in cultural values, and intercultural encounters. To assess college students' cultural competence and cultural intelligence gains, this experimental study evaluated the impact of two globalization projects on these two constructs. The control group conducted library research on aspects of cultural integration, whereas the treatment group participated in a community engagement experience. There was no increase in cultural competence and CQ as measured by the surveys for either of the two activities. Results also suggest that neither activity was more effective than the other. The study suggests the need for sustained infusion of activities that enhance students' cultural competence and CQ.

Keywords: Cultural competence, cultural intelligence, community engagement.

Multicultural and diversity sensitivity is a skill employers point out as being one of the top ten skills they look for in prospective employees (Kennedy, 2012). The methods and processes needed to equip future professionals to become globally conscious and globally competent have attracted the attention of researchers (Ang et al., 2007), who are looking at ways to incorporate cultural intelligent practices throughout a child's education and to create a plan to assess CQ.

According to the Cultural Intelligence Center website (2012), cultural intelligence (CQ) is defined as "a consistent predictor of performance and adjustment in multicultural settings." To date, the body of research on CQ is still theory-focused (Sternberg & Grigorenko, 2006), and the experiences that lead individuals to adjust in multicultural settings have not yet been widely explored (Gelfand, Erez, & Aycan, 2007). Few studies have measured the effectiveness of different methods for increasing cultural competence and intelligence. The scarcity of research on CQ is due to the fact the construct is still rather new, especially as it relates to educational settings (Ang et al., 2007).

The objective of the present, empirical study is to compare the impact of two globalization projects on college students' cultural competence and CQ. The central research question that guided this study was:

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Do community engagement activities provide college students with higher levels of cultural competence and CQ compared to projects that only require research about facts related to other cultures?

Two additional research questions were examined:

Were there any student characteristics that predicted cultural competence and CQ?

Did students' perception about the effect of the projects on their cultural competence and CQ match the effect revealed by the pre- and post-surveys on cultural competence and CQ?

Theoretical Background

There is an array of definitions of cultural competence and cultural intelligence. According to Ladson-Billings, cultural competence is "about student acquisition of cultural knowledge regarding their own cultural ways and systems of knowing society and thus expanding their knowledge to understand broader cultural ways and systems of knowing" (as cited in Milner, 2011, p. 71). Cultural intelligence, on the other hand, is "the ability to make oneself understood and the ability to create a fruitful collaboration in situations where cultural differences play a role" (Plum, 2007, p. 1). A close look at both definitions suggests that cultural intelligence includes a dimension that goes beyond the "knowledge" level, a fundamental condition for culturally competent individuals. A culturally intelligent person is someone who not only knows about differences in cultural backgrounds, but who allows him/herself to be changed by intercultural encounters.

It is not uncommon for cultural competence and intelligence to be used interchangeably in the literature. However, Peterson (2004) believes that competence is "…not something we should ultimately strive for but rather, should excel beyond." (p. 87). He then proposes aiming for cultural intelligence as it represents the higher goal. Peterson defines cultural intelligence as

…the ability to engage in a set of behaviors that uses skills (i.e., language or interpersonal skills) and qualities (e.g., tolerance for ambiguity, flexibility) that are tuned appropriately to the culture-based values and attitudes of the people with whom one interacts. (p. 89)

Research by Alred, Byram, and Fleming (2006) and Zapata (2011) suggests that to help individuals develop the behaviors, skills, and qualities that define them as being culturally competent and culturally intelligent, they need to engage in face-to-face encounters with people who represent different cultures, values, beliefs, etc. It is through these intercultural encounters that one can develop the skills needed to engage in healthy inter-ethnic interactions and meet the needs of a pluralistic society, thus preparing these indi-

viduals to compete in the global arena (Crider, 2007; Rivera, Johnson, & Ward, 2010). Researchers (Ang et al., 2007, and Karnyshev & Kostin, 2010) also agree that to develop effective graduates, university programs must focus on helping students understand "the norms, practices and conventions in different cultures acquired from education and personal experiences" (Ang et al., 2007, p. 338). Such understanding includes awareness of cultural similarities and differences (Brislin, Worthley, & MacNab, 2006) and knowledge of differences in cultural values (Hofstede, 2001).

To gain a deeper understanding of cultural similarities and differences, college students must learn more than just facts about other cultures; college curricula must include opportunities for personal experiences and intercultural encounters in a college setting (Zapata, 2011). Educators need to be intentional in their instructional design and incorporate opportunities for cross-cultural interactions in their classes (Karnyshev & Kostin, 2010). These interactions will expose these future professionals to situations that will require them to intentionally select the right behaviors when interethnic contacts occur (Crider, 2007).

Community engagement activities can provide opportunities for these interactive, first-hand encounters. Community engagement activities are those embedded in the academic curriculum with the purpose of involving students in the community (Zapata, 2011). Such involvement can happen in a variety of ways, as long as service is provided to the members of the community through direct contact. Direct contact with individuals from diverse groups and with stories from another culture will allow for cultural exposure and, consequently, greater cultural understanding. These out-of-the-classroom activities provide numerous benefits in college education beyond cultural knowledge gain, among which are awareness of differences in interests, values, and views; verbal and social gains; prejudice reduction; and personal acceptance (Kuh, 1995; Tutt & McCarthy, 2006). According to Zapata (2011), community engagement activities have become one of the most effective ways of promoting cultural understanding and competence to college students.

The Study

This study aimed to evaluate the impact of two globalization projects on college students' cultural competence and CQ. The two projects were part of the course requirements for two sections of an introduction to language and culture class at a public midwestern state university during one academic semester. The course is required for all students majoring and minoring in the Language Studies program. The course is an experiential introduction to the sources, representations, changes, varieties, and social, political and cultural functions of language. Both sections of the course were taught by the same instructor, and the course requirements were the same for both sections. In both sections of the course, students were randomly assigned to participate in one of the two globalization projects – the StoryWalk® project or the Globalized World project.

The StoryWalk® Project

The StoryWalk® project is a community engagement activity created by Anne Ferguson of Montpelier, Vermont, in collaboration with the Vermont Bicycle & Pedestrian Coalition and the Kellogg-Hubbard Library (Vermont Bicycle & Pedestrian, 2012).

The project consists of a combination of reading storybooks while walking, thus promoting physical fitness. The project involves the selection of reading materials targeted to younger readers to stimulate their desire for reading in a fun and interactive way. Once selected, the pages in the reading materials are separated, laminated, and attached to a pole, a fence, or any other area that allows readers to go through the story while walking on a path.

A central component of the StoryWalk® activity is the interaction that takes place between an experienced reader and a novice reader during the reading and walking process. These interactive exchanges aim to stimulate novice readers' reading skills through questioning, imaging, creating, predicting, and discovering. These are recommended strategies to maintain children's interest in the story (Adamson, 1980).

For the present study, the stories chosen focused on the topic of language and culture to allow for the analysis of the impact of the activity on participants' cultural competence and CQ. Participants who were selected to work on this project were free to choose reading materials on any culture of their interest as long as the materials met the five following criteria:

1. The story line had to be appealing to readers in third through fifth grades.
2. The story should have minimal text and a great story line.
3. The story line needed to be such that it could be used in different seasons.
4. The illustrations should not cross the center of the book.
5. The books should be in average 30 pages long.

StoryWalk® participants selected four storybooks targeted to third through fifth grade readers with stories on four different cultures and languages: Spanish, Korean, Brazilian, and Japanese.

The StoryWalk® activity was conducted in a local elementary school with the highest number of culturally and linguistically diverse students. Permission was given by the school principal to have college students selected to work on this project to read stories and interact with third through fifth graders on the school grounds during recess time.

The pages of the reading selections were attached to a long fence by the school playground. Each project participant conducted the StoryWalk® activity with an average of three to four elementary level children. The stories were read to four different groups of elementary children for a total period of two hours on two different days.

The Globalized World Project

The Globalized World was also a team-based project but did not provide opportunities for participants to interact with anyone outside their teams. It required participants to conduct a piece of library research on any aspect of cultural integration. Cultural integration could be researched from the perspective of integration of culturally and linguistically diverse students in PK-12 schools, religious integration in the American society, or any aspect of cultural integration the team was interested in investigating.

Both projects - StoryWalk® and Globalized World - required participants to develop a presentation to be delivered to the whole group at the end of the semester in addition to a reflective journal all individuals had to turn in. The two projects differed only in that the StoryWalk® contained a community engagement component, whereas the Globalized World project did not.

Method

This study was approved by the Institutional Review Board where the study was conducted.

Participants

The participants in this study were 67 undergraduate students at a co-educational midwestern state university. The group combined both majors and minors in Language Studies and was represented by a variety of academic levels (i.e., freshmen, junior, sophomore, and senior). Approximately half of the group ($N = 35$) was randomly selected to work in the StoryWalk® project and the other half ($N = 32$) in the Globalized World project. Two teams of six to nine members were formed to work on each project for a total of two StoryWalk® teams and two Globalized World teams. All participants' native language was English. The majority of the participants ($N = 58$) spoke a foreign language at a proficient or somewhat proficient level. Almost half of the group ($N = 30$) had traveled, lived, or studied abroad and 63 out of the 67 participants had friends from different cultures.

Instruments

Students in both sections of the course were asked to complete a pre-test and post-test survey (see Appendix) that aimed to evaluate students' cultural competence and CQ. Students responded to the 21 statements in the survey on a 5-point Likert scale (1 = "fully agree" and 5 = "fully disagree"). The statements in the survey were developed as a result of a review of the literature on the types of experiences that lead to cultural competence and CQ and analysis of existing validated surveys on cultural competence (Hammer, Bennet, & Wiseman, 2003) and CQ (Van Dyne & Ang, 2006). A new survey was developed, rather than using an existing survey, because existing surveys include statements that do not directly address the context of college level students. The survey developed for the present study included statements that are similar to some of the statements in val-

idated surveys but added statements that describe situations and experiences that college students might encounter in an academic context.

Several questions were asked in such a way that the value of 5 ("Fully disagree") on the Likert scale represented the most culturally competent and intelligent response, but for most of the questions, the response corresponding to most culturally competent and intelligent had a value of 1 ("Fully agree"). To place all questions on the same scale and to produce a measure of cultural competence and intelligence in which the higher scores indicate greater cultural competence and intelligence, all responses were converted so that a 5 represented the most culturally competent and intelligent response.

The survey was piloted in three classes ($N = 68$) during the semester prior to the present study to assess the reliability of the instrument; reliability was reasonably high (Cronbach's alpha = 0.80).

Students completed the pre-test survey prior to becoming involved in the globalization projects. In the pre-survey, the participants were asked to evaluate three additional statements that asked participants whether: 1) they spoke a foreign language or a language other than English; 2) they had traveled, lived, or studied abroad; 3) they had friends from different cultures. The goal of these three items was to assess participants' previous cultural experiences.

Post-surveys were completed at the end of the academic semester after students had conducted their project presentations. The post-test survey contained the 21 questions from the pre-test survey but did not include the questions on cultural experiences. Instead, it added a question "Do you believe you have become more culturally competent as a result of this activity?". The purpose of this question was to allow a comparison between student perceptions of increases with actual increases measured by pre- and post-test differences in the survey results.

The reliability of 21 questions for the pre-test survey was reasonable (Cronbach's alpha = 0.73) but less than the reliability of the pilot administration of the survey. Cronbach's alpha was increased to 0.77 by removing seven questions from the analysis. For both the pre-test and post-test surveys, the sum of the retained 14 questions was used to calculate a score of cultural competence and intelligence. Because seven students on the pre-test survey and four students on the post-test survey failed to answer one of the questions, a percent score was used, which was calculated by dividing the sum of the scores for the answered questions by the maximum possible sum for the answered questions (i.e., five times the number of answered questions).

Normality of all variables were verified with Shapiro-Wilks, and if the distribution of the variables differed significantly from normality, nonparametric tests were used. Equality of variance between compared groups was verified with Levene's test.

Results

Sixty-seven students completed the pre-test survey, and 59 completed both the pre-test and post-test surveys.

Comparison between Classroom Activities

Students in the StoryWalk® group did not show greater increases in cultural competence and intelligence between the pre-test and post-test surveys than did students in the Globalized World group (Figure 1). The average change in the cultural competence and intelligence score did not differ between the students who completed the StoryWalk® project (average $\pm$ SD = 0.98 $\pm$ 6.11) and the students who completed the Globalized World project (1.19 $\pm$ 5.81; independent samples t-test, t = -0.136, df = 58, p = 0.89).
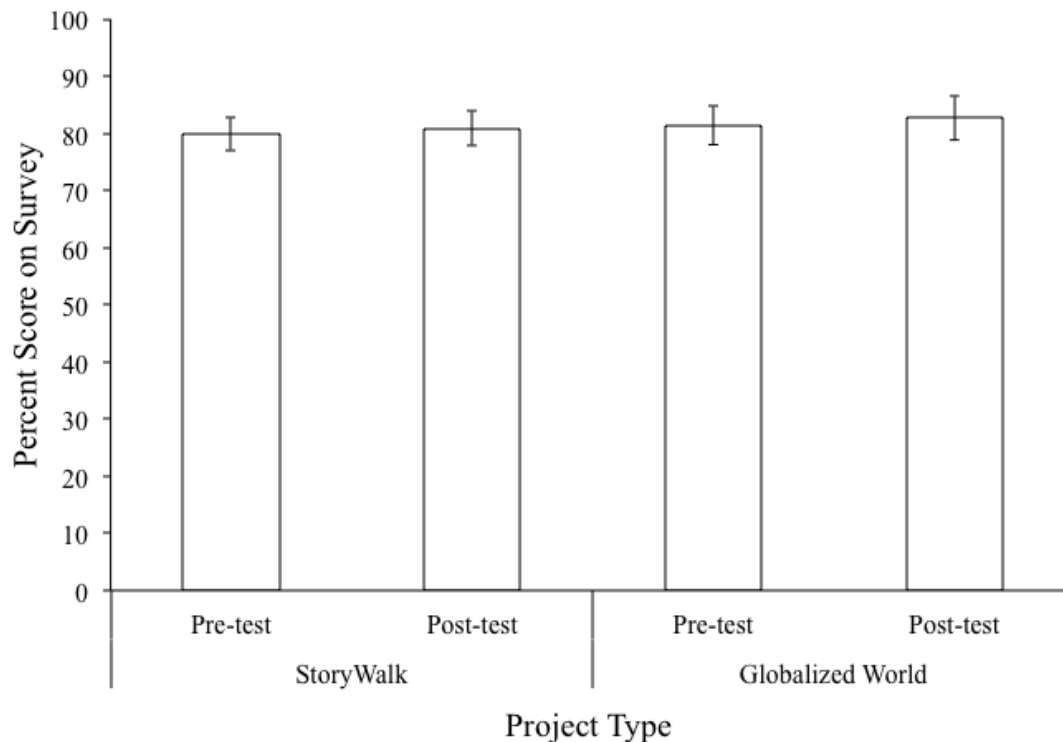
Figure 1. Average percent scores on pre- and post-test surveys of cultural competence for groups of students completing two different projects. Error bars represent 95% confidence intervals.

Because there were no differences between the two groups in the change in cultural competence and cultural intelligence, the two groups were pooled to determine whether students' cultural competence and intelligence increased between the pre-test and post-test surveys as a result of the projects. There was no significant change in the cultural competence and intelligence scores of students from the pre- to the post-test (mean change = -1.08; 95% confidence interval = -2.61 – 0.45; paired t-test, t = -1.41, df = 59, p = 0.16).

Predictors of Cultural Competence & Cultural Intelligence

The pre-test measure of cultural competence and intelligence was not related to any of the three measures of cultural experiences. Students who spoke a foreign language (checked "fully agree" to "agree to some extent" on question 1, $N = 58$) did not have significantly higher pre-test scores (average $= 78.74$) than students who did not speak a foreign language (checked "disagree" or "fully disagree", $N = 9$, average $= 74.68$, independent samples t-test, $t = 1.39$, $df = 65$, $p = 0.17$). Students who had traveled, lived, or studied abroad (checked "fully agree" to "agree to some extent" on question 2, $N = 33$) did not have significantly higher pre-test scores (average $= 78.99$) than students who did not (checked "disagree" or "fully disagree", $N = 34$, average $= 77.42$, independent samples t-test, $t = 0.77$, $df = 65$, $p = 0.44$). Students who had friends from other cultures (checked "fully agree" to "agree to some extent" on question 3, $N = 63$) did not have significantly higher pre-test scores (average $= 78.20$) than students who did not (checked "disagree" or "fully disagree", $N = 4$, average $= 78.26$, independent samples t-test, $t = -0.016$, $df = 65$, $p = 0.99$). In contrast to the individual measures of cultural experience, there was a statistically significant negative correlation between student's pre-test scores and the sum of their responses to the questions on foreign language proficiency, experience abroad, and friends from other cultures (Spearman rank correlation $r_s = -0.357$, $p = 0.003$).

Student Perceptions

The proportion of students indicating that their cultural competence and intelligence had increased as a result of their participation in the activities did not differ between those completing the StoryWalk® group (23 of 31 $= 74.2\%$) and the Globalized World group (21 of 28 $= 75.0\%$; $p = 0.643$ Fisher exact test). Of the 59 students that completed the pre- and post-test surveys, 44 (74.58%; 95% confidence interval $63.4 - 86.4\%$) reported that they felt that their cultural competence and cultural intelligence had increased as a result of their participation in the activities. This proportion was significantly greater than 50% ($p < 0.001$, binomial test).

The students' perception of whether their cultural competence and intelligence changed as a result of the activities did not match the change measured by the surveys. There was no relationship between the change between pre-test and post-test scores and whether students felt that the activities increased their cultural competence and cultural intelligence (point biserial correlation, $r = 0.018$, $p = 0.892$).

Discussion

The present study focused on one central research question.

> *Do community engagement activities provide college students with higher levels of cultural competence and CQ compared to projects that only require research about facts related to other cultures?*

Participants' responses in the pre- and post-surveys show that there was no increase in cultural competence and CQ as measured by the surveys for either of the two activities. Results also suggest that neither activity is more effective than the other.

A likely reason why the participants in the StoryWalk® project did not show a greater increase in their cultural competence and CQ than participants in the Globalized World project may have been related to the length of time students were involved in this community engagement activity. That is, participants were engaged in this interactive activity for a total of two hours throughout the semester. Although they interacted with children, a group with whom they may not interact with frequently and who represented different cultures, languages, religious backgrounds, and ability levels, the amount of time that allowed for those interactions may have been too limited to generate significant changes in their cultural competence and cultural intelligence. The short time of engagement was also true of the Globalized World project and may, therefore, also explain why that group did not show an increase in their cultural competence and CQ. A complete and thorough test of the hypothesis that community engagement activities are more effective than library research projects in increasing students' cultural competence and CQ would require examination of activities that are sustained over longer periods of time.

Two additional questions were examined in the study. They were:

> *(1) Were there any student characteristics that predicted cultural competence and CQ?*
> *(2) Did students' perception about the effect of the projects on their cultural competence and CQ match the effect revealed by the pre- and post-surveys on cultural competence and CQ?*

Results show that there is either no relationship or perhaps a negative relationship between students' previous cultural experiences and cultural competence and intelligence as measured by the survey. Interestingly, there was a negative relationship between cultural competence and intelligence and the sum of the scores on the cultural experience questions.

It is possible that those individuals with a greater combined proficiency in a foreign language, extensive experience abroad, and larger number of friends from different cultures may be more sensitive as to where they stand in the cultural competence and cultural intelligence continuum. These participants may have a deeper understanding of these two constructs and, therefore, understand they are not as culturally competent and intelligent as they would like to become. In contrast, those with fewer or less extensive cultural experience may have a more superficial understanding of the meaning of the two constructs and the behaviors and skills of a truly culturally competent and intelligent person.

The results also show that there is no alignment between the students' perceptions of their own increases in cultural competence and intelligence and increases measured by the survey. The majority of the participants thought their cultural competence and cultural intelligence increased as a result of the projects; however, their responses on the pre- and

post-surveys show they have not. One possible explanation would be that the validity of the instrument is not sufficiently high. Although the instrument was based on what the literature identifies as culturally competent and culturally intelligent skills and behaviors and the types of statements included in other validated surveys, there remains the possibility that the survey used in this study may not have measured cultural competence and cultural intelligence accurately.

Another, more likely, explanation is that the participants' own perceptions regarding the two constructs are not accurate. Considering that this was their first semester in a language studies class, they may not yet clearly understand the meaning of cultural competence and cultural intelligence and what is entailed by culturally competent and culturally intelligent behaviors. Even though the majority of the participants have had some level of exposure and interaction with culturally and linguistically diverse individuals and may have immersed themselves in a foreign context, the participants may not have had sufficient experiences or training to truly understand the meaning of cultural competence and cultural intelligence. They may have considered themselves competent and intelligent from the cultural perspective of their previous exposure to diversity, yet that exposure may not have been sufficient to develop a deep understanding of cultural competence and intelligence.

A final possible explanation about the lack of alignment between students' perceptions of their own increases in cultural competence and cultural intelligence and increases measured by the surveys may be responder bias. Students may have responded in the way they believed the instructor expected them to answer.

A review of 22 studies on intercultural research and outcomes assessment from 1992 through 2012 reveals the uniqueness of the present study. To date, all studies have focused on intercultural competence and intelligence as a result of immersion experiences, in particular study abroad experiences (Bender, Wright, & Lopatto, 2009; Fry & Paige, 2007). None of the studies reviewed used a randomized design in an educational setting to evaluate the impact of course projects on cultural competence and cultural intelligence. There was only one study (Westrick, 2004) that examined the impact of service-learning activities on students' intercultural sensitivity. The results of the study show that although service-learning or community engagement activities can influence the development of multicultural and diversity sensitivity in students, they do not necessarily do so. These findings suggest the need for empirical research, similar to the one done in the present study, to examine the types of classroom activities that may impact learners' cultural competence and intelligence and to develop a plan to assess college students' cultural competence and CQ over the course of their undergraduate studies.

Implications

The results of the present study have important implications for how universities attempt to enhance the cultural competence and CQ of their students. Future empirical research is needed to determine whether other short-term activities might increase cultural competence and CQ in college students. Data are needed on the specific experiences that lead

to cultural competence and CQ in a college context and how those are structured in a program of studies to generate higher levels of cultural competence and intelligence among college students.

Although short-term experiences other than those tested in the present study may produce some gains in cultural competence and intelligence, it may be that single, isolated activities in individual courses may not provide students with significant gains in cultural competence and CQ, even when students are engaged in community activities. Instead, it may be critical that these learners be systematically exposed to cultural competent and intelligent teaching practices modeled by their instructors and engaged in experiences that gradually introduce them to, and allow them to practice, culturally competent and intelligent behaviors. Such exposure and engagement should be part of the overall education of students and should not be restricted to only certain programs (e.g., language studies).

In addition to implementation of activities into curricula to increase competence and intelligence, a systematic plan of assessment should be developed to track the growth of college students in these constructs throughout their program of studies. This assessment should also determine whether graduates have developed the skills needed to function effectively in a global context that requires culturally competent and intelligent skills from professionals.

The need for culturally competent and intelligent professionals in the world market today makes it imperative for university instruction to consider a long-term strategy regarding cultural competence and intelligence, whereby awareness of the cultural competence and intelligence is first raised, and then students are provided activities that strengthen their cultural competence and intelligence. Throughout the curriculum, these experiences should be accompanied by frequent assessment of growth in these two areas.

Acknowledgments

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Appendix

Survey to measure cultural competence.

Circle the answer that best describes you, your opinions and behaviors.

	1 (Fully agree)	2 (Agree)	3 (Agree to some extent)	4 (Disagree)	5 (Fully disagree)
1. People in other cultures do things the same way we do.					
2. I have an interest in learning about different cultures. *					
3. Marriage practices are different in different cultures.					
4. When I meet people different from me, I compare how my cultural identity is similar to theirs.					
5. The way we do things in my culture is better than the way people do things in other cultures.*					
6. What people in other cultures believe is as valuable as what people in my culture believe.*					
7. The world would be better if most cultures did things the same way. *					
8. I am very likely to go to an event on campus that features the music, dance, and art of another culture. *					
9. Classroom activities that involve interaction with people from other cultures help a person develop cultural competence. *					
10. I tend to observe people different from me and reflect on how they make me feel.					
11. I think of myself as a culturally competent person. *					
12. Being around people from other cultures makes me uncomfortable.					
13. I like to tell people from other cultures about my own culture. *					
14. When I talk to people who do not speak my language well, I change how I speak so they can better understand me.					
15. People in my culture have better values than people in other cultures. *					
16. I enjoy talking with people from different cultures. *					
17. It is fair to allow students from different cultures to complete assignments in different ways.					
18. If I'm around people of other cultures, I try to behave like they do. *					
19. I find it difficult to discuss subjects with people who have an opinion different than I do. *					
20. I like to try foods from other cultures.					
21. We learn a lot from interacting with people who are different from us. *					

* indicates questions used to calculate cultural competence score (see Methods).