Developing Intercultural Competence by Participating In Intensive Intercultural Service-Learning

Nadia De Leon

Stanford University

This quasi-experimental study investigates the effects of an intensive intercultural service-learning program on the intercultural competence of undergraduate students by utilizing pre- and post-course assessments of intercultural competence as measured by the cultural intelligence (Van Dyne, Koh, & Ang, 2008) and intercultural sensitivity (Chen & Starosta, 2000) scales. The intercultural service-learning course utilized The $100 Solution™ model with immigrant and refugee families. It was implemented in treatment sections (n = 52) of a general education course on cultural diversity in the U.S. Comparison sections (n = 118) of the same course implemented the same curriculum without the service-learning experience. Statistical analysis confirmed that service-learning had a significant positive effect on students' intercultural competence, particularly their intercultural strategy and action, although not on their intercultural knowledge, motivation, or sensitivity. The investment of time and effort required to implement high-quality, intensive, intercultural service-learning programs enhances some aspects of students' intercultural competence.

Because there are already numerous qualitative studies about the experiences of undergraduate students in intercultural service-learning, this study focuses on quantitative measures of intercultural competence. Despite the fields' call to conduct "systematic scientific research with meaningful indicators of educational outcomes" (Hatcher & Bringle, 2000, pp. 68-69), to date little research points toward some clear and significant correlation between intensive intercultural service-learning and intercultural competence. Furthermore, there is a clear need for experimental and quasi-experimental research in the field of student outcome assessment in service-learning with comparison and control groups in order to determine if outcomes are attributable to the service-learning experience (Billig & Waterman, 2003, p. 19). This study utilizes multiple-item, psychometrically-sound measures with documented properties to measure constructs meaningful to intercultural competence – a primary goal for the course and service-learning program under study.

Many professional fields today acknowledge the importance of intercultural competence in conducting work ethically and efficiently, especially when serving racial minorities and diverse populations. Many argue that in our interconnected world, "if our young people do not learn about other societies, they may well be unable to cope with the complexities of their own" (Tonkin, 2004, p. 19). This assertion holds true for learning about and being able to work across cultural groups with whom students are unfamiliar. Present higher education institutions strive, in one way or another, to produce not only capable professionals but also responsible global citizens skilled at

facing the challenges of pluralistic societies, diverse workplaces, and a globalized world (Deardorff, 2009a; King & Howard-Hamilton, 2003). Thus, achieving intercultural competence and civic outcomes are common educational objectives in higher education (Ward, 1996). Unfortunately, the vast majority of higher education students are not achieving global preparedness standards (Deardorff, 2009b).

Service-learning can help address the need of bringing people together across differences to address local and global issues (Keith, 2005). Service-learning is well suited to the development of intercultural knowledge, skills, and attitudes by providing experiential and reflection opportunities "with and about diverse persons that are not easily replicable in the classroom settings alone" (Deardorff, 2012, p. 158). As such, service-learning experiences are one of the many pedagogical tools faculty tap to ensure students meet intercultural competence goals such as global sensitivity and understanding (Bringle, Hatcher, & Jones, 2011). Leveraging intercultural service-learning programs to develop intercultural competence is particularly true of intensive programs with minority and/or immigrant populations, which can be considered a form of international education (Bringle et al.).

Regarding the effects of service-learning on intercultural competence, past research has demonstrated that service-learning increases intercultural sensitivity (Fitch, 2004), awareness, concerns regarding issues related to culture or race (Dunlap, 1998), and awareness of cultural differences and sensitivity to diversity (Driscoll, Holland, Gelmon, & Kerrigan,

1996; Gallini & Moely, 2003; Greene, 1996; Hones, 1997; O'Grady, 2012; Welch & Billig, 2004). Intercultural service-learning programs increase pre-service teachers' sense of awareness of issues related to teaching in culturally diverse classrooms (Boyle-Baise, 1998), challenge stereotypes about people from racial and ethnic groups different from their own (Boyle-Baise & Kilbane, 1999), and decrease racism (Myers-Lipton, 1996). Numerous studies also point out that service-learning has a demonstrated ability to reduce stereotypes and facilitate cultural understanding (Dooley, 2007; Eyler, Stenson, Giles, & Gray, 2001; Rauner, 1995; Rhoads, 1997). Eyler and Giles (1999) found that stereotype reduction and increased tolerance for diversity form some of "the most consistent outcomes of service-learning" (p. 29). Service experiences are positively correlated with knowledge of people from other races and cultures as well as the ability to have positive interactions across such differences (Astin & Sax, 1998). Service-learners often claim that the experience expanded their horizons and increased their knowledge of the world and of people different from them (Levison, 1990). Respect and tolerance for diversity are common outcomes of service-learning (Cooks & Scharrer, 2006).

On the other hand, numerous service-learning scholars have warned that intercultural service-learning experiences may strengthen rather than diminish students' stereotypes (Eyler & Giles, 1999), concluding that mere contact does not necessarily equate with a deepened sense of awareness or sensitivity (Dooley, 2007; O'Grady, 2000). A study of participants' ethnocentrism before and after a short-term mission trip abroad showed that ethnocentrism was significantly lowered by the end of the trip, but the difference was not sustained over time; in some cases, the experience actually reinforced ethnocentrism and stereotypes (Priest, Dischinger, Rasmussen, & Brown, 2006). Gains appear to be mediated by time, opportunities for reflection, and cooperation with community partners (Hepburn, Niemi, & Chapman, 2000). Furthermore, students may experience feelings of guilt related to their own privilege and opportunities (Dunlap, 1997). Research has shown that power inequalities and privilege issues related to race and social class must be addressed carefully when working with students in multicultural service-learning programs (Grady, 1997). O'Grady (2012) theorizes that without intercultural education efforts, service-learning experiences can easily reinforce oppressive outcomes by perpetuating "racist, sexist, or classist assumptions about others and reinforce a colonialist mentality of superiority" (p. 12).

Program Context

The $100 Solution™

The $100 Solution™ (THDS) was founded by Dr. Bernard Strenecky in 2005 while he was a member of the Kentucky Rotary Club of Prospect/Goshen. The club challenged its two Rotary Ambassadorial Scholars to solve a community problem in Mexico and Ireland, using $100 or less. They were guided to identify a problem and determine solutions working in partnership with community leaders. THDS is now an independent nonprofit organization and the program is implemented worldwide at Semester at Sea and at a growing number of universities and high schools in the United States (The $100 Solution™, n.d.; The $100 Solution, 2013).

THDS is based on a collaborative community-based problem and solution identification process. Students are taught to avoid making assumptions about the needs of others, and instead to have frank conversations in order to address needs identified as priorities by the community members. They also are encouraged to pay attention to community assets and build upon them. Asking questions creates conversations and dialogue, allows for shared leadership, and can catalyze collaboration.

The philosophy of THDS also emphasizes the importance of small steps toward long-term goals. This concept holds particular importance for undergraduate students who may often feel intimidated by large-scale problems. Through THDS they learn that each small step can be significant in addressing such issues. A key feature of THDS pedagogy and philosophy lies in the program's intention to foster a sense of student self-efficacy. Scholars have found that the educational programs most effective in engaging youth addressed their need to develop civic agency (Boyte, 2008), autonomy, relatedness or sense of belonging, and competence (Carver, 1997). Working closely with community partners on issues perceived by students as real, pressing, and tangible drives students beyond expecting experts to fix social problems, instead engaging the students as active citizen-creators of the society in which they wish to live (Markham, 2011).

THDS employs a problem-solving technique consistent with Carver's (2011) service-learning model in which students gain a sense of agency, belonging, and competence through a process that includes challenging characteristics (such as choosing battles, making mistakes, and being exposed to constructive feedback). However, the expected outcomes are only achieved if supportive characteristics – such as needed resources, trust, and guiding principles – are also in place. Furthermore, the program (a) aims to be authentic so that participants perceive the activities and con-

sequences as meaningful, (b) engages students in active learning through problem solving, (c) draws on students' experiences, and (d) provides mechanisms to connect the present experience to future opportunities (Carver, 1997). THDS also aligns with Whitfield's (1999) definition and goals of problem-based service-learning, including fostering problem-solving skills, developing the ability to see problems from multiple perspectives and approach them in an interdisciplinary manner, improving self-directed learning skills, and cultivating capacity to adapt to change.

THDS also subscribes to service-learning principles. In the program students are "challenged, are active participants rather than observers, do a variety of tasks, feel that they are making a positive contribution, have important levels of responsibility, and receive input and appreciation from supervisors in the field" (Eyler & Giles, 1999, p. 33). Active learning, which is central to the THDS model, is compatible with service-learning scholars' assertion that the field has evolved "from viewing students only as participants in and beneficiaries of service-learning to viewing them as partners in and co-creators of all aspects of the service-learning enterprise as well" (Jacoby, 2012, p. 599). THDS trainers and leaders also encourage students to create their own service and learning goals, to make sure they review goals and expectations with their community partners, and see students as "co-creators of their education" (Strenecky & De Leon, 2012b), which aligns with Sigmon's (1990) third principle: "those who serve also are learners and have significant control over what is expected to be learned" (p. 57).

Working in teams and learning from and with each other is an essential aspect of the THDS pedagogy. The effort required to complete a successful community project would not be easily achievable by a single student in a semester. Groups must be transformed into teams, with common goals, mutual trust, and commitments from each member. The formation of such cohesive teams requires time for interacting, planning, peer assessing, and giving feedback on individual and group performance (Fink, Bauman Knight, & Michaelsen, 2004).

The projects that students develop and present for approval by faculty and program administrators must comply with five THDS tenets: partnership, reciprocity, capacity-building, sustainability, and reflection. Students are required to work in partnership with a community organization or community members so that projects are not isolated efforts. Reciprocity between students and community members is assured so that the experience does not result in a one-way charity project but rather a two-way relationship. Thus, students must be able to articulate how they will ensure reciprocity in their project proposals and what

they gained from the experience in their final presentations. The projects must focus on building upon existing resources and improving the community's capacity to be more self-sufficient rather than fostering dependency. The solutions must not be simple short-term fixes but must consider long-term impact as well as unexpected consequences. Finally, students must engage in ongoing oral and written reflection.

The Program and Course

The undergraduate course under study, titled "Cultural Diversity in the U.S.," aims to give students the opportunity to learn about and understand the multicultural nature of American society with an emphasis on varieties of cultural expression, custom, and worldview as practiced by different cultural groups defined by ethnicity, religion, region, social class, gender, occupation, disability, age, and sexual orientation. In contrast to the content-focused non-service-learning course sections, the service-learning sections include hands-on cultural competence training activities in class and a community experience with an immigrant or refugee family. The course fulfills a general education requirement by helping students to "appreciate the complexity and variety in the world's cultures."

Course objectives across all sections include: (a) reflect about the cultural, ethnic, and gender diversity of society and the world, and understand concepts such as culture and cultural relativism; (b) foster respect for cultural diversity and recognize the contributions of a variety of social or cultural groups; (c) identify ways in which one group may be favored relative to another, and the concepts of ethnocentrism, stereotyping, prejudice, discrimination, oppression, and privilege; (d) recognize that all groups tend to take much of their own culture for granted, and that there is a need to examine one's own culture critically before one can understand other cultures; and (e) explore critically how we respond to cultural difference in our lives, examine cultural biases and assumptions, and practice cross-cultural communication skills.

The course is part of the Intercultural Service-Learning Program at Western Kentucky University (WKU), and is a partnership between an academic department, the university unit dedicated to community engagement, and the Center for Development, Acculturation, and Resolution Services (CEDARS) – a nonprofit serving local refugee communities. Groups of three to five students in the service-learning sections partner with local immigrants and refugees to (a) teach them about American culture, (b) learn about their respective culture, and (c) complete a project to advance the local immigrants' and refugees' community integration process.

The Intercultural Service-Learning Program is committed to advancing students' intercultural competence. Research demonstrates that intentional reflection activities hold the promise of generating and deepening student learning associated with intercultural competence (Deardorff, 2012). Among other things, reflection allows students the opportunity to confront bias, challenge simplistic conclusions, as well as "share their gazes and shift their eyes away from the 'others' with whom they are working, to themselves" (Bringle et al., 2011, p. 115). In the service-learning sections, students wrote individual weekly reflection journals connecting course content with their community service experiences as well as essays on aspects of their partner family's culture as well as on the students' developing worldview. They also reflected in their groups guided by peer group leaders and in class guided by the instructors. In a mixed methods study utilizing open-ended responses and interviews, Fitch (2005) found that preparing students for the community experience and engaging in reflection play essential roles in positive intercultural service-learning experiences.

The course emphasizes reciprocity. Jacoby (2003) writes that reciprocity "is frequently cited as the most fundamental ingredient for high-quality service-learning" (p. 152). To ensure reciprocity, families are recruited by asking if they would teach our students about their culture and welcome them into their homes. There is often participant resistance to this principle because our society (and others) value(s) giving without expecting anything in return. Many argue that expecting something in return from those suffering disadvantages is irresponsible or even unjust. However, THDS practitioners find it essential in order to foster the type of solidarity-based, two-way relationships among dignified equals that is required to avoid charity-based, one-way hierarchical interactions (Strenecky & De Leon, 2012a). THDS practitioners teach students that if they are unable to find something they may receive or learn from those they are serving, they have not gotten to know them well enough (Strenecky & De Leon).

During the first three weeks of classes, students in the service-learning course sections participate in THDS training and the CEDARS Volunteer training. During the 3rd week of the semester, students meet their partner families with whom they interact for a total of 12-24 contact hours during the 12-week term. During the first half of the semester, students co-identify an issue and develop a project idea with their community partners. Halfway through the semester they submit a project proposal, which they implement during the second half of the semester. Finally, the students submit a project report and present on their experience during the last weeks of classes. Projects are aimed at assisting a family's integration into the Bowling Green community, and include such efforts as helping secure bicycles for transportation, enroll in English as Second Language classes, access needed resources for a family with a deaf child, and start a business. During the two semesters this study took place the families the students worked with had come from Southeast Asia (mostly Burma) and Africa.

The service-learning sections of the course use peer group leaders – undergraduate and graduate students trained to facilitate reflection and community interactions. The group leaders and teaching assistants guide student-partner interactions and student teamwork, assist students through project planning and implementation, and grade and facilitate reflection.

Intercultural Competence

Intercultural competence is a term often interchanged with multicultural competence, global citizenship, transnational competence, cross-cultural skills, intercultural communication, intercultural sensitivity, and cultural intelligence (Deardorff, 2012). For the purposes of this study, intercultural competence is defined as "effective and appropriate behavior and communication in intercultural situations" (Deardorff, 2004, 2006). Intercultural situations include "interaction between people who … represent different … orientations to the world … most commonly … reflected … as nationality, race, ethnicity… religion, or region" (Deardorff, 2009b, p. 7). There are over 100 tools developed in various fields to measure aspects of intercultural competence (Deardorff, 2012). This study draws on Hofstede's (2001) and Allport's (1979) theories of intercultural competence development to understand what happens during the program under study.

Hofstede (2001) and others in fields such as counseling (Armstrong, 2008) understand intercultural competence as composed of three aspects: awareness, knowledge, and skills. However, Hofstede's analysis uniquely presents these three not as components but as sequential phases: the development of intercultural competence starts with awareness, grows with knowledge, and is completed with skills.

Hofstede (2001) defines awareness as "the recognition that one carries a particular mental software because of the way one was brought up, and that others who grew up in different environments carry different mental software for equally good reasons" (p. 427). One, then, seeks additional knowledge, because if "we are to interact with people in particular other cultures … [w]e should learn about their symbols, their heroes, and their rituals; although we may never share their values, we may at least get an intellectual grasp on

where their values differ from ours" (p. 427). Finally, Hofstede maintains that skills come last, "based on awareness and knowledge, plus practice" (p. 428).

To measure the development of intercultural competence, two tools were used in the present study – the Cultural Intelligence Scale (CIS) and the Intercultural Sensitivity Scale (ISS).[1] Cultural intelligence (CI) is "the capability to function effectively in a variety of cultural contexts" (Livermore, 2011, p. 3). Despite numerous similarities with other models of cultural competence, cultural intelligence is significantly different by virtue of being based on intelligence research. Intelligence is defined as "mental, motivational, and behavioral capabilities to understand and adapt to varied situations and environments" (Livermore, p. 25). Oolders, Chernyshenko, and Stark (2008) theorized that cultural intelligence functions as a mediator between an individual's openness to experience and actual adaptive behavior in intercultural interactions.

Cultural intelligence is composed of four distinct aspects: drive (motivation) – "interest and confidence in functioning effectively in culturally diverse settings;" knowledge (cognition) – "knowledge about how cultures are similar and different;" strategy (meta-cognition) – ability to "make sense of culturally diverse experiences;" and action (behavior) – "capability to adapt … behavior appropriately for different cultures" (Livermore, 2011, p. 7). Proponents of the cultural intelligence model argue that knowledge of other cultures and global attitudes are not sufficient for effective functioning in cultural diverse situations; it is necessary to be willing and able to adapt to the circumstances (Livermore). Thus, besides knowledge of other cultures, motivation speaks to willingness to adapt, and strategy and action speak to ability to adapt.

Intercultural sensitivity is similar to interpersonal sensitivity – "the ability to distinguish how others differ in their behavior, perception, or feelings" (Chen, 1997, p. 4). Chen defined intercultural sensitivity as "an individual's ability to develop a positive emotion towards understanding and appreciating cultural differences that promotes an appropriate and effective behavior in intercultural communication" (p. 5). Intercultural sensitivity requires awareness of similarities and differences but is evidenced in the ability to accept, respect, and appreciate differences. Intercultural sensitivity was measured in this study using the Intercultural Sensitivity Scale.

Intercultural Service-Learning

Intercultural service-learning is service-learning that integrates intercultural learning objectives and principles, and involves interaction between students and cultural groups other than their own. The following definition of intercultural service-learning, based on a modification of Bringle and Hatcher's (2011, p. 19) definition of international service-learning, guides the program:

> A structured academic experience in which students (a) participate in an organized service activity that addresses identified community needs; (b) learn from direct interaction and cross-cultural dialogue with others in which they can apply course content; and (c) reflect on the experience in such a way as to further understanding of course content, deepen understanding of global and intercultural issues, broaden appreciation of cultural difference, and enhance a sense of their own responsibility as local and global citizens.

Intensive intercultural service-learning is defined as intercultural service-learning in which such interaction is prolonged in terms of duration and frequency, which has been defined as "dozens of hours of service accumulated over many weeks or months" (Smith, 2008, p. 7). Duration of service has been found to have a significant impact on student outcomes from participation in service-learning (Astin & Sax, 1998).

The undergirding philosophy of the course is that interacting with people from cultural backgrounds increases students' intercultural competence through a process of perspective transformation, relationship building, and development of skills through trial and error. The perspective transformation that arises from these processes is directed through guided reflection.

Through trial and error in their interaction with the families, students practice communicating with individuals from a different cultural background and overcome language barriers. To have positive interactions, they practice modifying their behavior and understanding other people's perspectives. Taylor (1994) categorizes some behavioral learning strategies in which students may engage as observing, participating (talking, eating), and becoming a friend (committing, risking, sharing). To understand others, students must go through a shift in self-awareness, which Tierney (1993) describes in three steps: (a) consciously stepping out of one's geographic and temporal spheres of influence in order to learn about the other, (b) developing the desire and ability to listen while suspending assumptions, and (c) internalizing and understanding the other's needs, wants, desires, and how the other sees the world.

As students develop a personal relationship with their respective family, empathy increases. Furthermore, their motivation for better understanding and improved interactions grows from focusing mostly on avoidance of discomfort to genuine interest in and perhaps eventual care for and emotional

attachment to their partners (Collins & Einfeld, 2008; Paredes, 2007; Rasoal, Eklund, & Hansen, 2011).

Through the entire process, students experience perspective transformation, as conceptualized by Mezirow (1981, 1991) and applied to intercultural competency development by Taylor (1994). Getting to know individuals and communities challenges students' existing stereotypes and preconceptions of cultural others. At the same time encountering beliefs and behaviors that contradict their previously accepted cultural assumptions challenges those assumptions, such as what they considered before to be appropriate or inappropriate, edible or inedible, beautiful or unattractive. These two processes create cognitive dissonance. Only two outcomes can emerge from cognitive dissonance: the experiences are rejected and previously held cognitive schema remain intact, or cognitive schema change to accommodate the new experiences. This program utilized reflection as a tool to focus attention on the cultural disequilibrium experienced by the students, the emotions generated, and the dissonance between experience and previously held perspectives. This process actively guides students to question their existing schema and foster modification (Bringle et al., 2011; Eyler & Giles, 1999; Mitchell, 2008; Myers-Lipton, 1996; Steinke, 2002) which can lead to intercultural development(see Figure 1 for a summary of the program's undergirding theory).

There were two research questions for this study: (a) To what degree does participation in the service-learning program under study impact students' self-assessment of intercultural competence as measured by the cultural intelligence scale (including knowledge, strategy, action, and drive)? (b) To what degree does participation in the service-learning program under study impact students' self-assessment of intercultural competence as measured by the intercultural sensitivity scale?

Method

Participants

Participants included a total of 170 students during the Fall 2012 and Spring 2013 semesters. They were enrolled in six sections of the same course with 9 to 35 students each and taught by six different faculty members including the researcher. Three treatment sections were involved in the THDS program and the community service and three comparison sections were not. Students self-selected whether to sign up for a service-learning or non-service-learning section as both options were offered each semester. Demographic variables and academic majors for both treatment and comparison groups are summarized in Table 1. Chi Square analysis for each demographic variable as well as other previous experience variables (e.g., studying abroad) demonstrated no significant difference between the two groups.

Figure 1
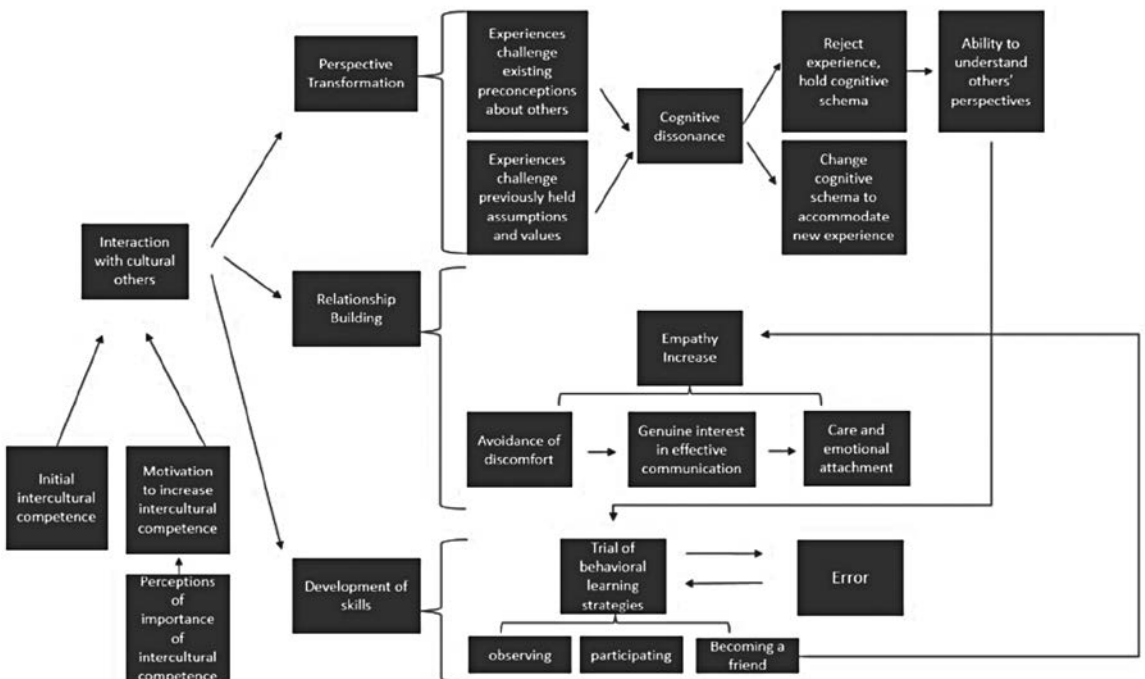*Undergirding Program Theory*

Table 1
Demographic Variables and Academic Majors for Treatment and Comparison Groups

	Treatment (*n* = 52)	Control (*n* = 118)	Total (*N* = 170)
Gender			
Female	61.1%	50.4%	53.6%
Male	33.3%	41.1%	38.0%
No answer	5.6%	8.5%	7.7%
Age			
17-21	87.1%	76.7%	79.6%
22-31	7.3%	14.8%	12.7%
No answer	5.6%	8.5%	7.7%
Race			
White	77.8%	70.5%	72.7%
Black	7.4%	10.1%	9.3%
Native-American	0.0%	1.6%	1.1%
Asian	1.9%	2.3%	2.2%
Mix of two or more races	7.4%	7.0%	7.1%
No answer	5.6%	8.5%	7.7%
Family Income			
Below $25,000	11.1%	10.9%	10.9%
$25,000 to $50,000	25.9%	26.4%	26.2%
$50,001 to $100,000	27.8%	34.9%	32.8%
Over $100,000	25.9%	16.3%	19.1%
No answer	9.3%	11.6%	10.9%
Field of Study			
Arts and humanities	13.0%	13.2%	13.1%
Behavioral, social sciences	5.6%	4.7%	4.9%
Business	18.5%	24.8%	23.0%
Education	9.3%	11.6%	10.9%
Health and human services	24.1%	20.2%	21.3%

Measures

The 20-item Cultural Quotient Scale (CQS) measures cultural intelligence, defined as "the capability to function effectively in a variety of cultural contexts" (Livermore, 2011, p. 3). Since the publication of Early and Ang's (2003) conception of the CQS, research has shown that it predicts people's ability to adjust and adapt to complex culturally-diverse situations. The Cronbach alpha reliability coefficient of the four sub-scales that comprise the CQS range from .72 to .86. Studies using the CQS have taken place in more than 30 countries. The instrument has shown test-retest reliability, generalizability across countries, and generalizability across methods as well as discriminant, convergent, criterion, incremental, and predictive validity (Van Dyne, Koh, & Ang, 2008). Cronbach's alpha was calculated as the reliability statistic for this sample for each sub-scale (knowledge α = .891, strategy α = .816, action α = .863, and drive α = .879). Sample items by subscale include:

Knowledge. "I know the cultural values and religious beliefs of other cultures" and "I know the marriage systems of other cultures."

Strategy. "I check the accuracy of my cultural knowledge as I interact with people from different cultures" and "I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me."

Action. "I use pause and silence differently to suit different cross-cultural situations" and "I change my nonverbal behavior when a cross-cultural situation requires it."

Drive. "I enjoy interacting with people from different cultures" and "I am confident that I can get accustomed to the shopping conditions in a different country."

The 24-item Intercultural Sensitivity Scale (ISS) measures intercultural sensitivity, defined as "the affective dimension of intercultural communication competence" (Chen & Starosta, 2000, p. 6), and a person's "active desire to motivate themselves to understand, appreciate, and accept difference among cultures" (p. 4). The Cronbach alpha reliability coefficient of this scale is .86 (Chen & Starosta). Cronbach's alpha was calculated as the reliability statistic for this sample for this scale (α = .885). Sample items include: "I respect the ways people from different cultures behave" and "I try to obtain as much information as I can when interacting with people from different cultures."

Procedures

Within the first two weeks of class and during the last two weeks of class, all participants were required to take a pre- and post-course self-assessment of intercultural competence consisting of the CQS and the ISS along with demographic information and program evaluation questions (including questions about the overall course as well as the service-learning program when applicable).

Procedures for data collection maintained student confidentiality, assured students that participation in the study would not affect their grades, and were approved by the WKU Institutional Review Board. The researcher did not gain access to the completed scales until after the two semesters of program implementation and data collection.

Throughout the implementation of each semester's courses, the faculty, community partner, and peer group leaders met weekly to assure quality control vis-à-vis the implementation of the service-learning component. Comparison courses followed the traditional format of the course as designed before the service-learning component was added. Before each semester began, the researcher and instructors of both treatment and comparison sections shared syllabi and coordinated instruction to maintain comparability, even down to the selection of assigned readings and films watched in class. The researcher maintained contact with all instructors to ensure that the content of treatment and comparison were as close as possible. The comparison sections included individual mid-term exams and research papers on topic of the students' choosing; these were replaced in the treatment sections by group papers on the partner families' cultures, individual weekly reflections, group project proposal and reports, and peer-evaluations of each group members' contributions.

Results

Pre-Course Comparison on Intercultural Competence Measures

Pre-course multicultural competence scores for treatment and comparison groups were compared to assess whether both groups began at comparable levels. Cultural intelligence – knowledge, motivation, strategy, and action scores – are measured on a 1-7 scale (where 1 = strongly disagree, 4 = neutral, and 7 = strongly agree), while intercultural sensitivity is measured on a 1-5 scale (where 1 = strongly disagree, 2 = disagree, 3 = uncertain, 4 = agree, and 5 = strongly agree). The treatment group began the course with higher knowledge (3.71 vs. 3.30) and motivation (4.90 vs. 4.82) scores, but with lower sensitivity (3.04 vs. 3.05), strategy (4.24 vs. 4.82) and

action (3.94 vs. 4.35) scores. MANOVA analysis with strategy, knowledge, motivation, action, and sensitivity scores as dependent variables and treatment vs. comparison as the factor showed a significant difference between treatment and comparison group on all variables combined, Wilk's $\Lambda = 0.883$, $F(5,164) = 4.331$, partial $\eta^2 = 0.117$, $p = 0.001$. Follow-up ANOVAs showed that the difference was significant for strategy $F(1,168) = 8.351$, $p = 0.004$, knowledge $F(1,168) = 4.571$, $p = 0.034$, and action $F(1, 168) = 4.358$, $p = 0.038$. The two groups were not significantly different in their motivation or sensitivity scores.

### Pre-Post Course Comparisons on Intercultural Competence Measures

To investigate possible pre-post gain differences between the treatment and comparison group, a repeated measure MANOVA was performed with students' intercultural competence as measured by their cultural intelligence (knowledge, strategy, action, motivation) and intercultural sensitivity as dependent variables, treatment condition as a between-subject variable, and time of test (pre-post course) as a within-subjects variable. Support for differential effects of the two course experiences was shown in an overall interaction between treatment condition and time of test, Wilk's $\Lambda = .853$, $F(5,126) = 0.853$, $p = .001$ with a large effect size (partial $\eta^2 = .147$). There was main effect of time test (pre-post-course) for all variables in combination, Wilk's $\Lambda = .553$, $F(5,126) = 20.362$, $p = .000$ with a large effect size (partial $\eta^2 = .447$). There was no significant overall treatment effect on any of the outcome variables.

Follow-up repeated measures ANOVAs showed a significant effect of pre-post test in all variables, suggesting overall learning and intercultural competence development from participation in the course with or without the service-learning component. Nonetheless, analysis also showed participating in the service-learning program had a significant additional effect. The interaction effect between treatment and pre-post test was significant for cultural intelligence knowledge, strategy, and action scores, as shown in Figures 2, 3, and 4. No interactions were shown for cultural intelligence motivation or intercultural sensitivity (Figures 5-6).

Knowledge. There was a significant interaction between test and treatment, $F(1,126) = 5.250$, $p = .024$, with a small effect size (partial $\eta^2 = .039$). As shown in Figure 2, the comparison group improved their cultural intelligence knowledge scores faster than the treatment group. This may be due to more time and attention paid to course content in the comparison course sections as opposed to the service-learning course sections.

Figure 2
*Pre-course to Post-course Increase in Cultural
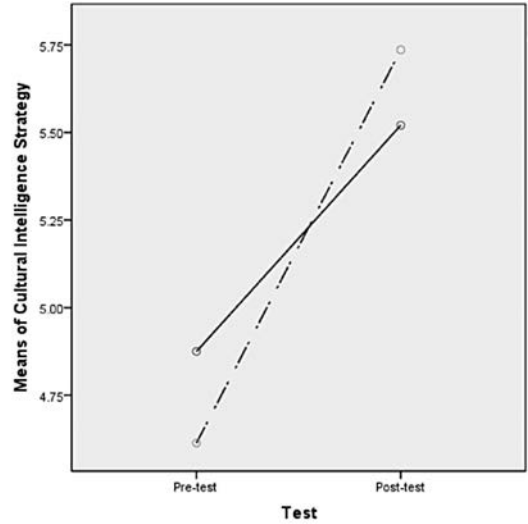Intelligence Knowledge Scores by Treatment and
Comparison Groups*
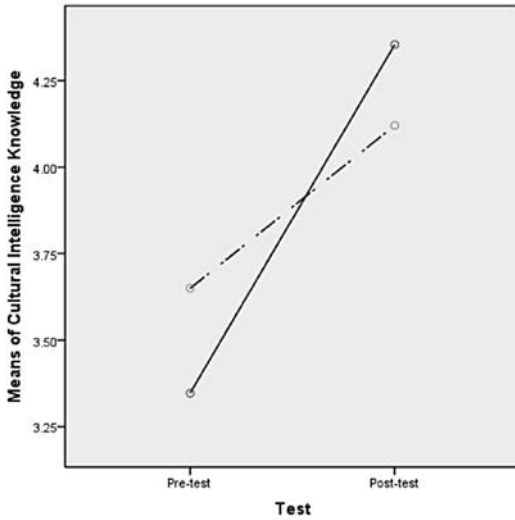
Note: Treatment group is represented with an intermittent line and com-
parison group is represented with a continuous line.

Figure 3
*Pre-course to Post-course Increase in Cultural
Intelligence Strategy Scores by Treatment and
Comparison Groups*

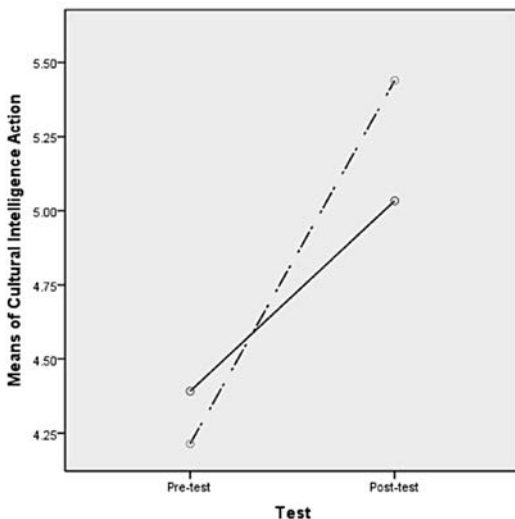*NNote:* Treatment group is represented with an intermittent line and com-
parison group is represented with a continuous line.

Strategy. There was a significant interaction between test and treatment, $F(1,133) = 4.103$, $p = .045$, with a small effect size (partial $\eta^2 = .041$). As shown in Figure 3, the treatment group improved cultural intelligence strategy scores faster than the comparison group.

Action. There was a significant interaction between test and treatment, $F(1,126) = 6.163$, $p = .014$, with a small effect size (partial $\eta^2 = .045$). As shown in Figure 4, the treatment group improved their cultural intelligence action scores faster than the comparison group.
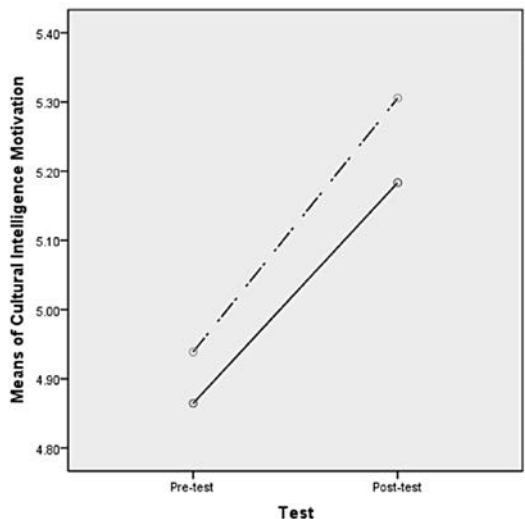
Motivation. There was no significant treatment effect, $F(1,132) = .145$, $p = 0.704$. There was no significant interaction between test and treatment,

Figure 4
*Pre-course to Post-course Increase in Cultural
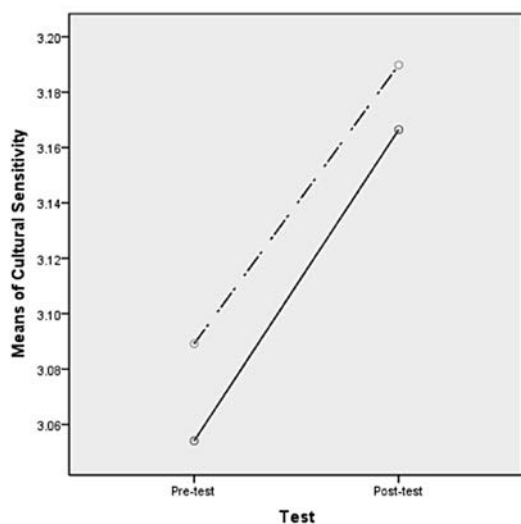Intelligence Action Scores by Treatment and
Comparison Groups.*

Note: Treatment group is represented with an intermittent line and com-
parison group is represented with a continuous line.

Figure 5
*Pre-Course to Post-Course Increase in Cultural
Intelligence Motivation Scores by Treatment and
Control Groups.*

Note: Treatment group is represented with an intermittent line and com-
parison group is represented with a continuous line.

Figure 6

Pre-course to Post-course Increase in Intercultural Sensitivity Scores by Treatment and Comparison Groups.

Note:: Treatment group is represented with an intermittent line and comparison group is represented with a continuous line.

$F(1,126) = 0.046$, $p = .830$. See the two parallel lines in Figure 5.

Sensitivity. There was no significant treatment effect, $F(1,132) = .633$, $p = 0.428$. There was no significant interaction between test and treatment, $F(1,126) = 0.028$, $p = .867$. See the two parallel lines in Figure 6.

Discussion

Intensive intercultural service-learning, particularly using The $100 Solution™ model in partnership with immigrant and refugee families, can enhance the development of some aspects of students' intercultural competence. In particular, this study documents that intercultural service-learning leads to the development of students' intercultural skills as measured by the cultural intelligence action and strategy scores. This is critical, considering that intercultural skills, as opposed to knowledge or awareness, are theorized to be more difficult to develop in intercultural competence training settings, such as the course under study (Hofstede, 2001). Classroom-based trainings and courses can be effective in developing aspects of intercultural competence, such as knowledge, motivation, and sensitivity. Nonetheless, adding direct cross-cultural interaction, such as that provided by the service-learning course sections, can significantly enhance programs aimed at developing participants' intercultural skills. The study also provides evidence that intercultural training that deliberately includes interaction with cultural others can aid participants in developing intercultural skills, possibly even before awareness and knowledge are fully developed.

This finding is also of particular significance to the field of intercultural training and education, reminding us that direct experience is an important complement to classroom instruction. Scholarship in the field maintains that intercultural training can help participants gain awareness of their own culture and knowledge about other cultures but not develop intercultural skills (Hofstede, 2001). According to Hofstede, although awareness of one's own "culture baggage" and knowledge about other cultures can be gained through intercultural training, the latter "cannot develop intercultural skills – these can be acquired only on the spot" (p. 423). However, he also asserts that "intercultural contact does *not* automatically breed mutual understanding" (p. 424, emphasis in original), which leads to two conclusions: only direct interaction with unfamiliar others can improve intercultural skills, and not all interactions will do so. To establish "true integration among members of culturally different groups requires environments in which these people can meet and mix as equals … [to] allow trust and friendships to develop between culturally dissimilar persons" (p. 425).

This study also indicates that using the service-learning pedagogy may result in decreased intercultural knowledge development. This phenomenon suggests that the time and effort dedicated to the service-learning program may have reduced the time and effort dedicated to course content, whereas the increased focus on the service-learning project and interactions with the community may have allowed for increased intercultural skills. Thus, intercultural educators may need to choose between increased intercultural knowledge or skills when deciding whether or to what degree to include service-learning. The skills versus knowledge paradigms reflect an ongoing debate on valued types of learning in higher education.

Alternatively, it is also possible that the service-learning students reported smaller increases in intercultural knowledge because they became more aware of their knowledge limitations than did their non-service-learning counterparts. The service-learning experience may have led these students to realize that they know less than they thought they did. In fact, the service-learning students' interactions with refugee families may have made their limitations more visible to them, negatively affecting the way they scored themselves in the post-assessments across all measures of intercultural competence.

Prior research may support this possibility. Miller and Fernández (2007) conducted a study to evaluate the effects on students of the Global Intercultural Experience for Undergraduates (GIEU) program

they developed at the University of Michigan. While results showed most students were more willing to be involved in situations of cultural difference and conflict after the experience, at the same time their confidence in their own cross-cultural ability diminished. This suggests that the experience helped them become more aware of their own limitations (while also eager to continue developing their abilities). Through comparison across different field experiences, the authors also found that the closer the interactions with local constituents and the more the experiences produced intercultural anxiety, the greater the students' intercultural development.

Literature in intercultural communication has also demonstrated that not all intercultural interaction leads to mutual understanding. For integration to occur across cultural differences, individuals must interact in a situation in which they are equals (Hofstede, 2001). Direct and continuous interaction with individuals of different cultures facilitates a reciprocal intercultural learning opportunity for service-learners and community members where both groups have the opportunity to have stereotypes and misinformation questioned. It is important that students not only observe others who are culturally different but also experience what it feels like to "become objects of their gazes" too (Bringle et al., 2011, p. 115). To accomplish these goals, students need time to build trust and develop meaningful relationships.

This study demonstrates that intercultural interaction through reciprocal relationships, such as those created by The $100 Solution™ service-learning model, augments students' intercultural skill development. This finding is in line with Allport's (1979) intergroup contact theory, which states that prejudice can be reduced between majority and minority groups when the interaction includes equal status for both groups, common goals, intergroup cooperation, personal interaction, and support of customs.

Results also showed that participation in either the treatment or comparison sections improved all the measured aspects of students' intercultural competence. This finding is of particular significance to the field of intercultural training and education, since prior scholarship maintains that classroom-based intercultural training can help participants gain awareness of their own culture and knowledge about other cultures but not develop intercultural skills (Hofstede, 2001).

Limitations

There are a few limitations with this study. First, the students self-selected into treatment and comparison course sections. This may indicate that they were personally invested in their choice. It has been demonstrated that personal interest may affect out-comes (Billig & Waterman, 2003). A second limitation is the fact that this study was conducted on one service-learning program, in one course, at one institution. Only small or weak generalizations can be made without close attention to the participants' characteristics. This is especially true given the limited minority student population of WKU. Third, as evidenced in discussions with students and student reflection papers, the nature of the experience varied greatly across student groups and this may have affected outcomes. Fourth, researcher bias may have played a role given that the researcher also was one of the instructors, coordinated the overall program, and was responsible for orchestrating program and curriculum implementation to assure comparability across sections.

Fifth, and not least significant, the study is limited by virtue of being based on students' self-reports. While self-report "is potentially useful for assessing effectiveness from the student's point of view, it is not able to assess appropriateness [of behavior] given that appropriateness can be assessed only by others" (Deardorff, 2012, pp. 168–169). Therefore, the case would have been stronger had we solicited evidence from people with whom students interacted so as to triangulate with the self-reports. Such an approach was impractical for this study given the cultural and language barriers faced by the partner immigrant and refugee families, and the time investment already requested of families and community partnering organization staff. Thus, results are based exclusively on students' perspectives of their own intercultural competence.

Finally, as is the case for all studies utilizing ANCOVA to account for disparities among treatment and comparison groups at the beginning of a study, this method removes the influence of covariates as a means of controlling for pre-existing characteristics and thus is "limited to the set of covariates that is measured and there is no assurance that all relevant covariates have been measured" (Hatcher & Bringle, 2000, p. 72).

Future Directions

Analyzing collected student reflections written throughout the course as well as post-course interviews may be able to clarify the findings in this study. Additionally, the students' reflections and papers may also document increase in culture-specific knowledge gained from interaction with one particular refugee family, which may not be picked up by the cultural intelligence scale. Finally, a follow up study with a qualitative focus could shed more light on how the impact on students' intercultural competence happened and whether the program theory proposed in this study accurately explains how that change occurred.

Continued research may further describe the characteristics of intensive intercultural service-learning programs that lead to improvement in students' intercultural skills. Researchers may also compare intensive versus non-intensive intercultural service-learning programs as well as programs that include interaction under the conditions described by Allport's (1979) contact hypothesis and programs that do not. Complementary research may also include assessing whether participation in such programs has a similar intercultural development effect on community partners. Additional research is needed to document whether such effects are sustained over time and their impact on participants' lives. Further investigation on the role of motivation in intercultural service-learning may broaden this study's finding that there was no significant difference between treatment and comparison students in terms of their motivation to interact with cultural others before or after the course. Further research also is needed to further clarify the differences between intercultural sensitivity and cultural intelligence development. Additional data analysis in the present study not presented in this article found that the intercultural competence gains held across demographic variables, such as gender and age, and across previous experiences such as having lived or studied abroad or had previous service experience. In fact, students with more limited intercultural experiences seemed to benefit more from participation in the program (De Leon Sautu, 2013). Research studying other similar programs, and even comparing multiple ones at the same time, can add to the findings of this study.

Notes

¹ The complete Cultural Intelligence Scale and further information about its development and testing can be found in Chen & Starosta (2000). The complete Intercultural Sensitivity Scale and further information about its development and testing can be found in Van Dyne, Koh, & Ang, (2008).

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Author

NADIA DE LEON (nadiad@stanford.edu) works at Stanford University's Center for Comparative Studies in Race and Ethnicity where she directs community engagement programs by working with faculty and students on courses that include a service-learning component as well community-based research and service projects. Previously she held a similar position at Western Kentucky University's ALIVE Center for Community Partnerships, where she also taught on cultural diversity, social justice, and gender. She earned a Doctorate in Education in Educational Leadership with emphasis in Post-Secondary Education and Organizational Leadership, an M.A. in Folklore, a graduate certificate in Women's Studies, and a B.A. in Dance Education from Western Kentucky University. She has been honored to receive awards and fellowships from the Smithsonian Institution, Imagining America, the Bowling Green Human Rights Commission, Western Kentucky University, and The Kentucky Foundation for Women for her teaching, arts, and activism achievements. She is an experienced administrator and program manager with knowledge of nonprofit, arts, and cultural organizations as well as international, bilingual, and multicultural education. She is also interested in diversity and social justice, sustainability, intangible heritage, and arts activism. She conducts intercultural competence trainings and writes on sociocultural, gender, identity, and political issues in Latin music and dance.