SERVICE-LEARNING:
CREATING OPPORTUNITIES TO EXPAND STUDENTS' WORLDVIEWS

Lauren I. Murray, M.A.
College of Education and Human Performance
University of Central Florida
Orlando, Florida

Jarrad D. Plante, M.P.P.A.
College of Education and Human Performance
University of Central Florida
Orlando, Florida

Thomas D. Cox, Ed.D.
College of Education and Human Performance
University of Central Florida
Orlando, Florida

Tom Owens, Ph.D.
College of Education and Human Performance
University of Central Florida
Orlando, Florida

ABSTRACT

More literature is needed that focuses on the effectiveness of service learning projects in higher education, specifically how individual students are impacted. This study investigates the possible influence of an international service-learning experience on a student's worldview. The International Service-Learning Inventory was used to ask students a variety of questions on social justice, intercultural competencies, diversity, global awareness, democracy, civic engagement, and transformative learning. The study was conducted with University of Central Florida student participants (N=9) enrolled in an international service-learning field experience in Botswana examining educational access and gender issues. The results demonstrated strong relationship among four factors: Community, Civic Engagement, Diversity, and Education & Leadership – of which were defined as a student's worldview. In addition, there were interaction effects with the four factors and gender and ethnicity and main effect sizes with the four factors and first generational students, Pell Grant recipients, and those who have traveled abroad. Because of the large effect size in the small population, this "pilot" or "exploratory" research suggests to the reader significant results may be found when examining larger populations.

INTRODUCTION

Service-learning has been described in various broad terms as a type of pedagogy, a philosophy, a program, a high-impact practice, a retention tool, and/or an experience pivotal to student learning and engagement (Deeley, 2010; Kuh, Kinzie, Schuh, & Whitt, 2005; Mendel-Reyes, 1998; Tinto, 2012; Yeh, 2010). The National Service-Learning Clearinghouse (2005) defines service-learning as, "...a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities." Another requirement of service-learning may include coursework that is associated with the experience with assignments and assessments attached. Additionally, students must actively participate in real-life activities that meet the needs of the larger community, and students have the opportunity to apply newly acquired skills and knowledge to real-world problems (Cashel, Goodman, & Swanson, 2003; McClain, Diambra, Burton, Fuss & Fudge, 2008).

A 1999–2000 survey of 324 universities and colleges found that 82% offered undergraduate and graduate courses involving service-learning experiences (Moser & Rogers, 2005). The benefits of service-learning to student participants have been studied across academic disciplines including nursing (Calvillo, Clark, Ballantyne, Pacquiao,

Purnell, & Villarruel, 2009), pharmacology (Coffey, Miller, Barnett, & Turberville-Vega, 2003), teacher education preparation (LaMaster, 2001), and social justice (Warren, 1998; Werner, Voce, Openshaw, & Simons, 2002). The benefits of service-learning activities have also been studied in many unique student populations, including honors students (Stewart, 2008), low-income and first-generation students (Yeh, 2010), and first-year students (Stavrianopoulos, 2008).

The literature demonstrates that students participating in service show many positive effects on measures including academic performance (GPA, writing skills, critical thinking skills), values (commitment to activism and to promoting racial understanding), self-efficacy, leadership (leadership activities, self-rated leadership ability, interpersonal skills), choice of a service career, and plans to participate in service after college (Astin, Vogelgesang, Ikeda & Yee, 2000; Yeh, 2010). Other benefits of student participation in service-learning activities include increased attendance, further development of students' personal and social responsibility, and, "the feelings of belonging to a peer group and greater connection to the institution" (Deeley, 2010; Kuh, et al.,, 2005; "What is Service-Learning," n.d.). Low-income and first-generation students, often at greater risk of attrition than their peers, demonstrate increased educational resiliency, increased feelings of personal meaning, and enhanced critical consciousness by engaging in service learning experiences (Yeh, 2010). Service-learning also provides students the opportunity to face societal and personal ignorance, injustice, inequity, and prejudices while allowing them to expand upon their own goals of cultural adaptation, values, knowledge acquisition, and career plans (Aydlett, Randolph &Wells, 2010; Knuston & Gonzalez, 2009).

International service-learning is a combination of study abroad experiences with those aspects of conventional service-learning and integrates a targeted culture into a student's learning experience (Tonkin & Quiroga, 2004). These experiences develop and enhance students' sense of global citizenship by immersing them in situations that involve interacting with community residents while carrying out a project intended to benefit the community (Prins &Webster, 2010). Although short-term programs such as these can reinforce stereotypes of the poor and simplify social problems, short-term international service projects can lead students to question consumerism, cultural norms, foreign policy, and even American cultural hegemony. Short-term experiences also enable students to step outside of their comfort zones and, in some cases, their own borders, to become aware of ideological identity both home and abroad (Prins & Webster, 2010). These trips are often transformative in nature, and enhance par-

ticipants' abilities to view their world from multiple perspectives (Knuston & Gonzalez, 2009).

This study adds to this body of literature by through quantitative assessment of student expansion of students' worldviews. For the purposes of this study, worldview is defined to be community, civic engagement, diversity, and education & leadership. Student expectations and concerns prior to the experience and reflections following the experience were analyzed to identify changes that occurred as a result of their participation. A review of the course and the service-learning experience establish the context for the study. The University of Central Florida defines service-learning as:

> A teaching method that uses community involvement to apply theories or skills being taught in a course. The institution believes that service-learning furthers the learning objectives of the academic course, addresses community needs, and requires students to reflect on their activity in order to gain an appreciation for the relationship between civics and academics. (Service-Learning, para. 1, 2013)

The aim of the course was for students to gain an appreciation of some of the challenges that educators in southern Africa face on a daily basis beyond exceptionality, race, gender and language barriers, effects of poverty, and access to quality education. The course, which is applicable to overseas study programs, was designed to assist student participants' work within the school community in Botswana while gaining insights into local and global educational issues (Biraimah, 2013).

There were several course objectives, of which included: analyzing how gender affects educational and life opportunities for students in Botswana, examining relationships between education, inequality, poverty, and socioeconomic status (class) in Botswana, demonstrating knowledge of the unique and diverse cultures, commonalities, and shared human condition, and reflecting on students' international field experience with regards to serving "the needs of the global community and experience the rewards of helping others" (Biraimah, para. 2, 2013).

METHOD

Participants

Participants in this study were nine undergraduate students enrolled in an international service-learning field experience at the University of Central Florida in the summer of 2013. The participation rate for both the pre- and post- online survey was 90%. Of the seven students who chose to identify their gender, five (55.6%) were

female and two were male (22%). Of the eight students who responded to questions regarding race and ethnicity, four identified as being white or Caucasian (44%), three as being Black or African American (33%), one as Hispanic or Latino (11%). Three of the students self-reported being juniors in college (33%) with the remaining six (66%) identifying as college seniors. Eight students (89%) are completing degrees within the College of Education while one student is pursuing a degree in the College of Sciences (11%). Five of the nine students (56%) indicated that they were Pell Grant recipients. Five students identify as first-generation (56%). Eight of the nine students indicated that they had previously completed service-related activities. Seven of the nine had previously traveled abroad for a variety of reasons, from vacationing and visiting with family and friends, to class trip and business trip, to participating in a mission trip, and/or alternative break programs.

Materials

The International Service-Learning Research Inventory was designed by the researchers after defining the term worldview and determining what construct would be investigated. After performing a meta-analysis of studies using similar inventories, the International Service-Learning Research Survey was developed using three previously validated surveys as its basis. The International Service-Learning Research Inventory is an online survey which consists of 40 questions, 28 of which were 6-point Likert Scale questions. The survey consists of two primary areas: demographic information and assessment questions. Assessment questions asked the participant to rank themselves in areas of sense of community, civic engagement, and thoughts on diversity and educational leadership; all topics that the researchers define as *worldview*.

To ensure the instrument's reliability and validity, a control group of similar participants was asked to complete the inventory. Each of these individuals completed the inventory with a member of the research team present to answer any questions or address any concerns that were raised. Improvements in wording and formatting were then made to the inventory as needed. These individuals were then asked to take the inventory again to ensure that any issues had been resolved.

To validate the measure, a Crombach Alpha was conducted for each of the four factors. One example of a *Community* factor, "My experiences through my International Service-Learning trip have helped me understand opportunities to become involved in my community," yielded a Crombach Alpha of .80. An example of a *Civic Engagement* variable, "It is important for me to vote and participate in other civic opportunities," presented a Crombach

Alpha of .66. One *Diversity* factor question, "My community is enhanced with ethnic and cultural diversity," yielded a Crombach Alpha of .46. The fourth factor, *Education & Leadership*, produced a Crombach Alpha of .64; a sample question was, "The thought of combining courses that I am taking with service to my community should be practiced more at my college/university."

Procedure

A one-group pre-/post research design was conducted with nine undergraduate students enrolled in the summer 2013 "International Education Field Experiences" at the University of Central Florida to determine the impact of their participation in a 3-week service-learning trip to Botswana. The course was designed to determine the impact of gender on education and life opportunities and to analyze relationships between education, inequality, poverty, and socioeconomic status (class) in Botswana (Biraimah, 2013).

Ten days prior to the students' departure, a research team member went into the class to discuss the study and how information would be collected throughout the study. All students in the course were urged to participate and reminded to complete the survey by the faculty members in the classroom prior to departure. Participating students were asked to provide consent before completing the online survey. Students choosing to participate in the survey were invited to complete the online inventory. Pre- and post-responses were then matched by the last four digits of the student's cell phone number (this information was not included on the consent form). Individuals who did not submit completed pre- and post-responses were eliminated, leaving a total of nine participants.

Analyses of the pre- and post- responses were conducted using the Statistical Program for Social Sciences (SPSS). Descriptive nonparametric statistics were used to describe demographic data. Paired-sample t-tests were conducted to determine significance in pre- and post- survey aggregate means for each construct. Multivariate and Univariate tests for repeated measures were used to determine relationships between construct scores and demographic information.

RESULTS

A scorecard was developed for each of the four factors of Community, Civic Engagement, Diversity, and Education & Leadership and an overall total score for the pre- and post- survey and +/- in change from the pre-survey to the post-survey results with the ranges yielding Low, Medium, and High.(Table 1). This score card is based off of *The Personal Adult Learning Style Inventory* (Knowles,

Holton, and Swanson, p.291, 2005). The changes from pre to post Low scores for the four factors were negative or nonexistent. At the same time, the changes from pre to post High scores for the four factors were all positive. The overall total scores changed where the Low range from pre- and post- survey decreased by 1, the Medium range from pre- and post- surveys stayed the same and the High range from the pre- and post- survey results increased by 1. This illustrated that student participants have increased their worldview based on the four factors and overall total scores.

Dependent T-tests for all Likert Scale were conducted to investigate mean differences between pre-survey and post-survey results. Of the 28 questions within the four factors, two are worth reporting. There is a statistically significant mean difference ($t = -2.53$, $df = 8$, $p < .05$) in student participant responses in "I am comfortable getting out of my comfort zone" from the Education and Leadership factor in pre- and post- survey responses. The pre-survey answers given prior to the trip to Botswana were significantly lower (M=4.67, SD=1.12) than the post-survey answers given upon their return (M=5.11, SD=1.27). The 95% confidence interval of the mean difference ranged from -.85 to -.039, and did not include zero. Similarly, a statistically significant mean difference ($t = -2.53$, $df = 8$, $p < .05$) was found in responses to "I am concerned about the rights of others and sensitive to those being discriminated against" also from the Education and Leadership factor in pre- and post- survey responses. The pre-survey answers given prior to the ISL trip is significantly lower (M=5.00, SD=.71) than the post-survey responses (M=5.44, SD=.53). The 95% confidence interval of the mean difference ranged from -.85 to -.039, and did not include zero.

A repeated measures test was used to determine if changes in rating, opinion, attitude, and evaluation of students' worldview were present. There was no statistically sig-

nificant difference after running a multivariate repeated measure for all four factors, but there was a large effect size, suggesting that the three-week international service-learning trip accounted for 33.3% of the variance in scores. Using Cohen (1992), that .01, 0.6, and 1.4 represent Small, Medium and Large effect sizes respectively, results indicate that two factors had a Medium effect size (Community Service = .064 and Civic Engagement = .073) and two factors had a Large effect size (Diversity = .286 and Education & Leadership = .254).

A repeated measures test was also used against five pieces of demographic information: gender, ethnicity, first generation, Pell Grant, and whether the participant has traveled abroad. The team was only interested in looking at large effect sizes in the Univariate tests; that of .14 and greater. Tables two and three were measured with interaction effects and tables four, five, and six were measured with main effect sizes. Looking at tables two and three, Univariates for Gender versus time and Ethnicity versus time, the Community factor yielded a commonality as a large interaction effect size. Ethnicity also scored large interaction effect sizes in both Diversity and Education & Leadership.

Large main effects for first generation students and participants who have traveled abroad both included Diversity and Education & Leadership. Similarly, non-first generation students along with those who have not traveled abroad both have large main effects for three factors: Community, Civic Engagement, and Diversity. Main effects for Pell Grant recipients had large effect sizes in Community and Diversity, and for those who do not receive Pell Grants had large effect sizes in all four factors: Community, Civic Engagement, Diversity, and Education & Leadership. Diversity was the common factor for those who answered "yes" to traveling abroad, receiving Pell Grants, and/or first generational students. Converse-

TABLE 1
INTERNATIONAL SERVICE-LEARNING SCORE CARD

Factors	Ranges per factor	Pre-High	Post-High	Change +/-	Pre-Med	Post-Med	Change +/-	Pre-Low	Post-Low	Change +/-
Community	37-42 = H	4	5	+1	4	4	--	1	0	-1
CE	31-36 = M	2	5	+3	5	3	-2	2	1	-1
Diversity	≤30 = L	4	6	+2	5	3	-2	0	0	--
Ed & Leader		5	6	+1	2	3	+1	2	0	-2
Overall	Range TOT									
	150-168	2	3	+1	6	6	--	1	0	-1
	131-149									
	≤130									

TABLE 2
UNIVATRIATE TEST OF GENDER*TIME FOR INTERACTION EFFECT SIZE

Factor(s)	Pre-survey		Post-survey		
	Mean	Standard Deviation	Mean	Standard Deviation	Eta
Community	36.29	2.21	36.29	2.29	.34

TABLE 3:
UNIVARIATE TEST OF ETHNICITY*TIME FOR INTERACTION EFFECT SIZE

Factor(s)	Pre-survey		Post-survey		
	Mean	Standard Deviation	Mean	Standard Deviation	Eta
Community	36.00	4.03	37.11	2.62	.23
Diversity	36.78	3.56	38.00	2.74	.48
Ed. & Leadership	37.33	3.74	38.56	2.60	.27

TABLE 4
UNIVARIATE TEST OF FIRST GENERATION STUDENTS*TIME FOR MAIN EFFECT SIZE

	Factor(s)	Pre-survey		Post-survey		Eta
		Mean	Standard Deviation	Mean	Standard Deviation	
Yes	Diversity	36.20	4.60	37.20	3.42	.19
	Ed. & Leadership	36.00	4.24	37.60	3.05	.43
No	Community	36.75	1.71	37.75	1.71	.33
	Civic Engagement	35.75	.96	37.75	.96	.89
	Diversity	37.50	2.08	39.00	2.58	.45

TABLE 5
UNIVARIATE TEST OF PELL GRANTS*TIME FOR MAIN EFFECT SIZE

	Factor(s)	Pre-survey		Post-survey		Eta
		Mean	Standard Deviation	Mean	Standard Deviation	
Yes	Community	38.75	2.87	36.75	3.50	.42
	Diversity	38.50	4.43	37.75	3.95	.75
No	Community	33.80	3.56	37.40	2.07	.48
	Civic Engagement	33.80	4.44	36.40	2.61	.69
	Diversity	35.40	2.30	38.20	1.79	.89
	Ed. & Leadership	35.80	3.77	38.40	2.88	.87

TABLE 6
UNIVARIAT TEST OF TRAVEL ABROAD*TIME FOR MAIN EFFECT SIZE

	Factor(s)	Pre-survey		Post-survey		Eta
		Mean	Standard Deviation	Mean	Standard Deviation	
Yes	Diversity	37.00	3.69	38.17	3.31	.28
	Ed. & Leadership	37.33	2.42	38.83	2.32	.50
No	Community	34.67	5.86	39.00	1.00	.43
	Civic Engagement	32.67	5.86	36.33	3.79	.82
	Diversity	37.33	6.43	38.00	3.61	.30

ly, those who answered "no" to these same three main effects repeated measures, Community, Civic Engagement, and Diversity were the three common factors that had large effect sizes.

DISCUSSION

Students are coming to college with greater backgrounds in volunteerism and are already familiar with new pedagogies of engagement (Astin et al., 2000). The results of this study support that statement, as eight of the nine participants had previously completed service activities prior to their international service-learning experience. Five demographic variables were found to have large effect sizes: gender, ethnicity, previous travel experience, Pell Grant recipients, and first-generation identification. However, only first-generation identification, Pell Grant recipients, and previous travel experience will be discussed below.

First-generation students

The first variable found to demonstrate a large main effect size with repeated measures was the interaction between first-generation and time. Almost half (43%) of the first-generation students entering college leave before they complete their degree, in contrast to 20% for non-first-generation students (Chen, 2005). Therefore, successful interventions are critical for the retention of this at-risk student population. Service-learning courses has been found to enable first-generation students to develop mentor-like relationships with faculty members while also making the curriculum become more personalized for the students (McKay & Estrella, 2008). This process enables the student to become more academically and socially integrated into the college community (Tinto, 2012). Previous qualitative research has found several important themes: ways in which their work contributed to the goals of the community, enabled the community to accomplish important work, increased their knowledge of social justice, increased confidence in navigating through the bureaucracy of college, and the ability to connect their academic major to careers of service (McKay, et. al., 2008; Yeh, 2010). Additional research on this population is critical to the development of effective retention strategies to ensure the academic success of first-generation students.

Low-income students (Pell Grant recipients)

The second variable found to demonstrate a large main effect size was the interaction between low-income, or students who received Pell Grants and time. In the 2012-2013 academic year, students with an estimated financial contributions (EFC) between $0 and $4,995 were Pell Grant eligible (U.S. Department of Education, n.d.).

In his 2010 analysis of data generated by the U.S. Census Bureau, Mortenson reports that there is a 46.8% gap in bachelor degree attainment based on age when measuring family income, with individuals in lower socio-economic statuses less likely to complete degrees. Therefore, research investigating the impact of service-learning on low-income college students is critical to success of this segment of the higher education population.

Previous qualitative research suggests that low-income students often feel like outsiders in the college community but report that service-learning enables them to appreciate the opportunities that higher education provides. Another key finding regarding low-income students engaged in service-learning is the importance of identity, both while completing service and how they saw themselves in the future. Henry (2005) writes that this emphasis on identity development was especially powerful because low-income students reported sharing some important characteristics with the service-learning site, especially, "a similar class background and feelings of isolation and lace of personal value" (p. 64). Future studies should examine the longitudinal impact of such realizations on students' identities, major selection, GPA, and later participation in service-learning experiences.

Previous travel experience

The final variable found to demonstrate a large main effect size was the interaction between previous travel experience and time. While the greatest interactions were found between previous international experiences to complete mission and community service were demonstrated, any previous international travel experience can have a strong relationship with participation in the Botswana trip associated with this study.

Research on the assessment of international service-learning is limited. International experiences involve intense psycho-emotional, ideological, and physiological reactions for students. Therefore, it is crucial that students critically reflect upon their experiences in order for personal growth and transformation of attitudes about the United States to occur (Adler, 1975; Crabtree, 2008). Hartman and Rola (2000) contend that students are "transformed as individuals" as a result of their international service-learning experience, becoming more "caring and affirmed students" in the process (p. 21). Our research appears to compliment these findings. Future research, however, should be longitudinal in nature, focusing on both the short- and long-term effects of international service-learning on students' personal, academic, and career development.

Limitations

This study had several limitations. First, the small sample size makes generalizations outside of the population itself very difficult. As indicated by the statistical results, larger sample sizes may have yielded significant results which would be used to generalize the results to a larger population in order to show that participation in international service-learning influences a student's worldview.

Students were invited to complete the post-assessment only ten days after returning from their trip. Greater gains may have been observed if the inventory were completed after a longer period of time. Students may have been better able to internalize and articulate their experiences after several weeks or even several months after returning home from Botswana. Future studies should consider the benefits and consequences of delivering post-assessment data collection after a longer period of time.

It was determined that a response bias and/or ceiling effect may have impacted the results. "Most likely to agree" and "agree" were the most popular answer choices on both the pre- and post-tests. While individuals in the validation process spent between 10 and 15 minutes completing the inventory, data indicates that the participants in the study itself spent between three and six minutes completing the inventory in both the pre- and post- test situations.

Lastly, the study inferred its findings from statistical data. No attention was paid to the students' academic subject matter associated with the course. A critique of quantitative data is that it limits student outcomes to the measures selected and analyses completed. Qualitative data may help to address these and other weaknesses associated with quantitative studies. The importance of student artifacts such as journals or reflection assignments as well as their participation in less-structured or out-of-class activities should be attempted.

CONCLUSION

This study aimed to determine if participation in an international service-learning experience would greatly impact an undergraduate student's world view. Results suggest that there is some significance with some questions that were in the online survey. Though the study consisted of a small number of participants, the results show large effect sizes with all four of the factors that we define as students' worldview: Community, Civic Engagement, Diversity, and Education & Leadership. Research proved that there were interaction effects with gender and ethnicity with those four factors and main effect sizes with first generational students, Pell Grant recipients, and participants who have traveled abroad. If the study had a larger population, we may have seen some of the large effect sizes

become significant from before participants went on their international service-learning trip and upon their return home with the four factors that are defined as *worldview*. To capitalize on the benefits of service-learning possibilities, professionals should be cognizant that students' prior experiences play an important role in the ways in which they create their worldview then challenge and support student participants to become engaged in service while questioning how their experiences impact their abilities to serve as global citizens and responsible leaders.

John Dewey (1933) stated that, "true learning only occurs when students must grapple with true dilemmas" (Aydlett, Randolph, and Wells, p. 152). Connecting classroom curriculum with hands-on experience in the field overseas through international service-learning has many benefits. Students are exposed to a diverse network of people who are also trying to make a difference and have the opportunity to become civically engaged, grow to become leaders, and work together with those who may have different viewpoints but finding a way to seek common ground as a cohesive cohort; creating an impact by expanding students' worldview. The results of this study give a strong charge for faculty in institutions of higher education to consider creating opportunities for service-learning in their class, programs, and in the university.

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