**Efficacy of an Initial Implementation of a School-Based**

**Global Competency Program for Adolescents**

**Abstract**

The study examines the Global Textbook Program (GTP) intervention implemented in four private high schools across one Southeastern state. The GTP was designed to be a low-cost low-time intensive intervention to enhance high school students' (*n=* 31) global competence in three areas: cultural self-awareness, intercultural inquiry, and intercultural communication. Measures for each subconstruct (e.g., cultural self-awareness) included a direct measure (e.g., an interview scored by a rubric) of actual global competence and an indirect measure (e.g., a survey) of perceived global competence. Due to Covid-19, the GTP ended early, with the majority of participants completing roughly 70% of the curriculum. Results demonstrated non-significant but small-to-medium effect size gains for actual cultural self-awareness and intercultural competency. Implications and future directions for research are discussed.

**Keywords:** global competence, high school, intercultural competence, students

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**Global Competency Program for Adolescents**

Institutions of higher education place more emphasis on developing global, international, and intercultural competences among students (Brown & Jones, 2007; Kimmel & Volet, 2012; Soria & Troisi, 2014). Given the interconnected state of today’s world and economy, education leaders have encouraged students to develop global competence skills including self-awareness, cultural curiosity, and culturally effective communication (Deardorff & Hunter, 2006; Olson & Kroeger, 2001; Simpson & Dervin, 2019). Global competence has been broadly defined as being open-minded to differences, seeking to understand cultural norms, and utilizing this knowledge to work and communicate outside one’s environment (American Council on Education, 2008; Hunter et al., 2006; Morais & Ogden, 2010; Peterson et al., 2007; Westheimer & Kahne, 2004). Globally competent students have been described as individuals who identify their own limitations and abilities to participate in intercultural encounters, possess intercultural communication skills to succeed in those interactions, and demonstrate passion and knowledge about global issues (Morais & Ogden, 2010). The current study focuses on three subconstructs within global competency: cultural self-awareness (i.e., understanding the cultural framing within which one’s identity is situated), intercultural inquiry (i.e., curiosity to explore other cultures and the ability to ask questions and draw connections between multiple cultures), and intercultural communication (i.e., the ability to communicate effectively and respectfully with people of different cultures and backgrounds).

In an effort to prepare students for a globally connected world, many U.S. secondary schools and colleges offer a variety of study-abroad programs to provide students with opportunities to gain international experience and global competence skills (Ballestras & Roller, 2013; Deardorff, 2006; Monaghan & Hartmann, 2014). However, because participation in study-abroad programs is not feasible for all students (Parkinson, 2007), higher education institutions have implemented a range of “internationalization at home” strategies (Knight, 2004; Otten, 2003; Soria & Troisi, 2014). Internationalization of university curriculum, for example, has shown to increase world mindedness (Hett, 1994; O’Leary, 2001) and general international knowledge (Hembroff, Knott, & Keefe, 1990). A recent large-scale study of undergraduate students (*N* = 15,807) from nine large public research universities in the United States found that participating in globally-focused coursework, interacting socially with international students, and engaging in global co-curricular activities were positively associated with perceived advantages for students’ global competence development, while studying abroad was unrelated with global competence when accounting for other globally-focused activities (Soria & Troisi, 2014).

Meanwhile, post-secondary schools around the world have introduced language or cultural programs into their classrooms to promote intercultural or global competence (Barzanò et al., 2017; Peng et al., 2009). Research in this field is nascent; preliminary evidence indicates that students around the world who participated in programs with the goal of improving global or intercultural competence successfully improved their attitudes towards people from different backgrounds, enhanced motivation to learn about other cultures, gained intercultural communication skills, and increased actual practices of those skills (Baltes et al., 2015; Barzanò et al., 2017; Méndez García, 2012). The current study is thus designed to address the knowledge gap by investigating the degree to which high school students in the U.S. obtain global competence skills via an on-site extracurricular program.

Researchers have identified two types of interventions with the highest promise for increasing global and/or intercultural competence: overseas immersion and pedagogical interventions (Zhang et al., 2017). Given the cost and potential barrier to entry for overseas immersions, researchers and practitioners are working to produce strong yet low-resource pedagogical interventions to ensure greater access for students to opportunities to enhance their global competency. There are four potential components of are four sub-types of pedagogical interventions: culture-based teaching materials, classroom activities, teaching strategies, and integrated intercultural programs (Zhang et al., 2017). The findings from this study are not conclusive enough to make strong recommendations on how to proceed with future studies.

**Literature Review**

Prior global competence development programs in high schools can be categorized based on program orientations (language vs. cultural) and delivery methods (online vs. onsite). Among cultural programs, we have identified one study of an onsite program, Cultural Awareness Consortium (CAC), a U.S.-based curriculum where students engaged in daily discussions of political, social, and cultural topics over four months (Baltes et al., 2015). Longitudinal data demonstrated that students (*N* = 54) exhibited significant attitude changes on multicultural relations and increased interactions with their peers from different cultural backgrounds.

 Online cultural programs designed to promote global competence have demonstrated varying levels of success. One study examined Global Generations, an international project supported by teachers that allowed students to partake in online communities where they could meet peers from various cultures via video conferences (Barzanò et al., 2017). By analyzing team blogging activities (e.g., brainstorming steps for multicultural education) from students (*n* = 2000) and teachers (*n* = 200) across seven years, the authors concluded that team blogging and video conferences were potential powerful tools for multicultural education, given the right conditions and dynamic monitoring by teachers. Another study (Lee & Park, 2017) examined the one-semester online International Learning Exchange (ILE) program in Korea, where Korean students aged 10 to 15 (*N* = 236) partnered with American and Australian students to discuss a variety of topics ranging from tradition, culture, environment, and geography. The study outcome revealed that students who undertook activities of greater quality where students were interacting and leading activities with other cultures scored higher in intercultural competence. This would also lead students to have more meaningful interactions with their peers and locals.

In terms of global competence programs with language goals, onsite programs have been investigated more frequently. For example, a case study of the Content and Language Integrated Learning (CLIL) programs (Méndez García, 2012), which were bilingual education programs in Andalusia’s primary and secondary schools, conducted individual interviews with language teachers (*n* = 15) and focal group interviews with students (*n* = 12) from different schools. The qualitative results indicated the potential of bilingual curriculum to foster positive attitudes, improve critical cultural awareness, and increase societal participation among students. Another study (Acheson et al., 2015) investigated the effects of a two-year curricular experiment conducted among Spanish learners from two public high schools in the United States. In addition to learning the language, students in the intervention group (*n* = 111) delved more into histories and philosophies and participated directly in cultural activities. The intervention group demonstrated increases in positive attitudes and learning motivation, while the internal comparison group (*n* = 121) showed no substantial growth, and the external comparison group (*n* = 159) decreased with respect to attitudes and motivation (Acheson et al., 2015).

Studies have continually shown overseas immersion programs and pedagogical intervention have been shown to be the two main forms of interventions that increase students’ global competency. The four sub-groups of pedagogical interventions are: culture-based teaching materials, classroom activities, teaching strategies, and integrated intercultural programs. A recent meta-analysis revealed that overseas immersion programs do render a more significant impact (ρ = .52) on students than the four pedagogical interventions (ρ = .42 for cultural-based learning material and integrated intercultural programs, ρ = .31 for classroom activities, and ρ = .30 for comprehensive teaching strategies), however, having interventions that are able to be administered in a classroom setting are more accessible (Zhang et al., 2017). Most notably the students must be able to learn and have a chance to reflect on their experiences through interactions with others. Intercultural competency is not something that students can fully achieve in one setting, instead it is an ongoing practice that people must work on life-long ([Barrett et al., 2014](https://www.sciencedirect.com/science/article/pii/S0147176718305200#bib0045)). Curriculum has shown to be a powerful tool for discourse and democratic engagement where students are able to continue learning outcomes beyond the classroom (Ladson-Billings 2016).

One study examined the outcome of an online language program. The study investigated the effects of Learning of Intercultural Language over the Net (LILON), which paired Taiwan’s English-learning with U.S. Chinese-learning high school students as language partners (Peng et al., 2009). Participants in the study (*N* = 62; 27 U.S. and 35 Taiwanese students) showed a decrease in self-assessed competency in attitudes (such as a willingness to exchange information) and no changes in other dimensions of intercultural competency (i.e., awareness, skills, and knowledge). The researchers inferred from student feedback that the decrease could have resulted from frustration about language barriers and differences in communication styles felt by the Taiwanese students.

As seen through an online program assessing how cultural values impact knowledge sharing looking at participants (students and teachers) from Beijing, Hong Kong, and the Netherlands showed a range of different types of behaviors that were learned and exhibited during the course. This research combined qualitative and quantitative methods to show that those from high collectivism would share more knowledge within groups than people with low collectivism. With students entering the class with their cultural background, they were able to exhibit their cultural values within the classroom. Cultural dimensions measured were: Power Distance, Individualism, Uncertainty, and Confucian. At the beginning of the course, students were assessed for these cultural dimensions, and as the course progressed, students began to display cultural dimensions of those peers that they would have greater interactions with showing potential to continue these, and other, learned behaviors outside of the classroom.

Taken together, these studies provide mixed results for programming targeting global competency or similar outcomes for pre-university adolescents. Online programs have documented some success in gaining global competency through cross-cultural interaction; however, only one study examined an in-person, onsite program, the CAC, focused on global and multicultural competence, assessed through attitudes (Baltes et al., 2015). The CAC demonstrated success for student gains in attitudes toward multicultural competence, yet the time dedication (daily meetings over four months) may be impracticable for many secondary schools to implement. The current study was designed to investigate whether students participating in an onsite extracurricular program monthly during school hours over the nine-month academic year would experience gains in global competency constructs: intercultural inquiry, cultural self-awareness, and intercultural communication.

**Global Competency Program**

The Global Competency Program was designed in a university-company partnership focused on enhancing high school students’ global competency through a low-resource, non-time-intensive extracurricular intervention program. Drawing on acculturation theory (Berry, 2005) and an intercultural competency framework (Deardorff, 2006), we created a curricular outline designed to support students’ growth in cultural self-awareness, intercultural inquiry, and intercultural communication. Seven core topics were designed by GTP to be taught across eight months: describing school life, comparing student life with other cultures, holiday traditions across cultures, transcending stereotypes, cultural values and friendship, subcultures and social issues, and critical self-reflection. Each topic aligned with one or more of the three focal outcomes. Course lesson examples can be obtained by contacting the first author.

Within each school, one or more teachers served as the leader for the Global Textbook Program; each leader was responsible for providing the students the GTP in a co-curricular or extracurricular setting at their school. The lessons for the first two core topics were provided by the research team. The remaining curriculum for the five core topics was developed by the program teachers.

**Hypotheses**

1. Students will gain in perceived global competency through participation in the Global Textbook Program, as measured by surveys.
2. Students will demonstrate increased global competency through participation in the Global Textbook Program, as measured via rubrics applied to interviews.

**Method**

After receiving approval from the Institutional Review Board of the authors’ institution, all private schools, *n=* 4, that were participating in the Global Textbook Program in one southeastern state were invited to participate in this study. Approval to recruit participating students was sought and received from the heads of school or principals of each of the four high schools participating in this study.

**Participants**

 Students attending four private high schools in one Southeastern state in which the intervention was being implemented as a co-curricular or extracurricular program were invited to participate in this study during in-person consenting meetings at their school in August and September 2019. The coordinators of each school were responsible for recruiting students for the GTP. Research team members held a consenting meeting with students participating in the GTP wherein we explained the purpose of the study, answered questions, distributed consent and assent forms, and invited the students to participate in the study. Because some students were under consenting age of 18, we required both student assent and parental consent for students to participate. Students were provided multiple copies of the consent forms, or the parental consent and student assent forms, as well as a self-addressed stamped envelope. Some students chose to complete the forms in person that day but maintained confidentiality of their response by submitting their consent form or decision to opt-out in the sealed envelope. Other students mailed their decisions or shared their sealed envelope with their GTP coordinator who then mailed it to the research team. Of the 37 students, from ninth to twelfth grade, invited to participate, 31 consented (or assented and received parent consent), resulting in an 83.78% participation rate. Student demographic information is presented in Table 1.

**Procedure**

We corresponded with the teachers and coordinators from each school at the beginning of The Global Competency program to set up time and space within the school for researchers to interview the students and ask them to complete the survey to gather pre-assessment data. All pre-assessment data was collected within a month of the start of the program, which occurred between November 6th, 2019 and November 13th 2019. Post-assessment data was collected between April 2nd 2020 and April 15th 2020. The majority (81%) of pre-assessments were conducted in person. Students unable to participate on the school’s assigned interview date (*n* = 4) were conducted online via Zoom. It was intended that the post-assessment data collection would mirror what was done in the pre-assessment collection. Due to Covid-19, however, interviews and surveys were administered virtually. In the program’s intended curriculum and design, as provided by the GTP, teachers were responsible to ensure students’ achieved the seven core topics through class lessons and activities throughout the school year. The adjustments that were taken are explained in the next section.

***Adjustments due to Covid-*19**

Although the program was designed to continue through May, schools stopped their programs due to Covid-19 in mid-March. No participants were able to complete the program: program coordinators reported that they were able to complete 50-75% of the assigned curriculum (*M =* 66%). Due to school closures for COVID-19, all spring interviews and surveys were provided online over Zoom. For in-person participation, students were directed by their program teachers to meet the interviewers in a room within the school that could ensure privacy of sound but also ensure visibility to others in the school via windows (e.g., small classrooms or conference rooms). When students arrived, they were asked to complete the survey on a laptop provided by the research team. Once the students completed the survey, the interviewers would begin the interview by informing students that the interview was confidential, voluntary, audio recorded, and could be stopped at any time, and that students could choose to skip any questions they did not want to answer. At the completion of the fall interview, the students were thanked for their time and reminded that we would see them again in the spring for the follow-up interview and survey. Interviews that were conducted over Zoom in the fall were also informed at the start of every interview that their interview was confidential, voluntary, audio recorded, and could be stopped at any time. Each outcome of interest—intercultural inquiry, cultural self-awareness, and intercultural communication—was measured at both timepoints (fall and spring) both with the survey and by the application of a rubric to the interview. Similar to the fall interviews that occurred online, students participating in spring interviews were informed that their interviews were confidential, voluntary, audio recorded, and could be stopped at any time.

**Measures**

***Survey***

Students completed the 23-item WFU Global Competency measure (Brunsting & Zachry, unpublished), which includes constructs of global competency and measures students in five areas, intercultural inquiry, self-awareness, community interaction, intercultural communication, and global responsibility. For this study, student responses to intercultural inquiry, cultural self-awareness, and intercultural communication were measured. Each subscale of the measure demonstrated high reliability (α range: .82 - .87) as well as strong predictive validity (*r* range: .43 - .61) with measures of perspective taking and empathetic concern with a large sample (*N* = 464) of individuals with English proficiency living in five world geographic regions: Central Asia, East Asia, Europe, North America, and South America.

 **Intercultural Inquiry*.*** Intercultural inquiry was designed to capture the degree to which individuals are curious about other cultures and act on that curiosity. Intercultural inquiry was measured by the five-item intercultural inquiry subscale, which was adapted from a 40-item epistemic curiosity scale (Littman & Spielberger, 2003). An example item is “when I am learning about another culture, I ask many questions.” Students responded on a seven-point Likert-type scale, ranging from 1 *strongly disagree* to 7 *strongly agree*. The intercultural inquiry scale demonstrated high reliability in the current sample in both fall (α = .72) and spring (α = .79).

 **Cultural Self-Awareness.** Cultural self-awareness measured students’ perceptions of their ability to explain how their perspectives and experiences impact their approach to and understanding of other cultures. Cultural self-awareness was measured using an adapted version of the metacognitive subscale of the Cultural Intelligence Scale (Ang et al., 2015), wherein the term “cultural knowledge” was adapted to “perspective” or “worldview”. An example item is “I adjust my perspective as I interact with people from a culture that is unfamiliar to me.” Response options were provided on a seven-point Likert-type scale, ranging from 1 *strongly disagree* to 7 *strongly agree*. The cultural self-awareness scale demonstrated high reliability in the current sample in both fall (α = .83) and spring (α =.80).

 **Intercultural Communication.** Intercultural communication captured students’ perceptions of their ability to navigate cultural interactions using appropriate and respectful communication. The measure is a four-item scale adapted from the behavioral cultural intelligence subscale (Ang et al., 2015). An example item is “I change my non-verbal behavior when a cross-cultural situation requires it.” Students responded on a seven-point Likert-type scale, ranging from 1 *strongly disagree to* 7 *strongly agree*. The intercultural communication scale demonstrated high reliability in the current sample (α = .75).

***Interview and Rubric***

The first, second, and fourth authors served as interviewers. The first author is an Indian American female and a research coordinator with experience conducting similar interviews with college students; the second author is a Chinese female research assistant with experience conducting similar interviews with college students; and the fourth author is a white male faculty member with experience conducting interviews for assessment and research purposes. The interview protocol included semi-structured questions for each of the three study outcomes, with the opportunity to verbally probe student responses to the questions. Questions for each study outcome were limited to 5 minutes, so the interview total times ranged from 6-15 minutes per interview. An example question intercultural inquiry was “can you describe an experience where you noticed an unfamiliar custom or behavior of a person from a different culture or background? [if further prompting needed:] Examples include clothing, traditions, objects”. An example question for cultural self-awareness was “can you describe an experience that you have had interacting with someone from another culture? [after description:] how did your culture or background influence the interaction, if at all?” An example question for intercultural communication was “can you describe an experience where something that you said or did was perceived differently by someone from another cultural or background? This could be a difficulty in communicating or a difference in interpretation. Interview audio was recorded for each interview to allow for scoring reliability completed in before the start of post-assessment.

 Interviewers rated students on a rubric for each outcome. The rubric was adapted from the American Association of Colleges and Universities VALUE Rubrics (Rhodes, 2010). Intercultural inquiry was adapted from the intercultural knowledge and competence: knowledge of cultural worldview frameworks rubric. Cultural self-awareness was adapted from the intercultural knowledge and competence: self-awareness rubric. Intercultural communication was adapted from the intercultural knowledge and competence: skills—empathy rubric. Raters scored each interview for each outcome ranging from zero to four, with zero being the lowest and four being the highest. Please see Appendix A for the scoring rubric. To ensure reliability of scoring, the three interviewers trained on example interviews until they met scoring criterion (*r* > .70, *k-*1 > .95). Additionally, 25.00% of interviews in both fall and spring were scored by a second interviewer to ensure reliability.

**Analysis**

 We conducted repeated sample *t*-tests to examine differences in participants at the beginning of the GTP and after the GTP was interrupted by Covid-19. To determine suitability for repeated samples *t*-tests, the data will be examined for violations of univariate and multivariate normality. Due to the relatively small sample size in the study and the anticipated small-to-medium effect of the intervention, Cohen’s *d* effect sizes will be calculated for all *t-*tests, including those not reaching statistical significance (*p* < .05).

**Results**

Tests were calculated for violations of univariate and multivariate normality for all quantitative variables. Only one item from the global responsibility subscale, “I try to predict the overall result of carrying out a particular course of action on a global issue” exceeded standards for skewness (+/-2) and kurtosis (+/-5; Bowen & Guo, 2012; Ware, Ferron, & Miller, 2013; West, Finch, & Curran, 1995): skewness (-2.03), and kurtosis (7.16). Mahalanobis values were calculated to examine multivariate normality: no cases exceeded the .001 threshold and thus no outliers were flagged for further consideration. To examine inter-rater reliability of interview scoring using the rubric, the second author scored 20% of the interviews in the fall, revealing 100% agreement for each of the three outcomes.

**Correlations**

 We calculated the correlations between the pre (fall) interview and survey to post (spring) interviews and surveys (see Table 2). The data revealed that the median score increased (.04 - .22) in both the interview and the survey scores from fall to spring.

**Pre-post Repeated Samples *t*-tests**

 We conducted repeated samples *t*-tests to investigate whether differences between pre-and post-intervention tests were significant (see Table 3). The data revealed increases in both perceptions and actual demonstrations for all three constructs (intercultural inquiry, cultural self-awareness, and intercultural communication); however, the increases were not statistically significant. At the completion of the curriculum, students’ interview scores revealed a small-to-medium effect size increases in demonstrated intercultural communication (*d =* .32) and cultural self-awareness (*d =* .27). Effect sizes interpretations are: small = .2, medium = .5, and large = .8 (Cohen 1988).

**Discussion**

The current study was designed to test the efficacy of a pilot implementation of the Global Textbook Program by examining whether high school students’ participation would yield increases in their perceived and actual global competency. We hypothesized that participants would experience significant increases in both perceived and actual global competence across all three constructs: intercultural inquiry, cultural self-awareness, and intercultural communication.

Results did not confirm our hypotheses. Although students reported higher perceived global competency and demonstrated higher global competency across all three constructs, the increases were not statistically significant. As we note in the limitations section, there were multiple factors that may have impacted these results; primarily that no participants were able to complete the curriculum due to Covid-19. During the transition to online learning in the middle of the spring semester, all schools’ GTPs were put on hold and did not complete the curriculum.

Students, however, were exposed to a cultural curriculum during their adolescent years and are able to take this knowledge gained and expand on it. As argued by Ladson Billings “Knowledge is not static, it is shared, recycled, and constructed” (Ladson Billings 1995). Students whether they choose to pursue higher education or another route will be able to take the knowledge and experience gained through this program and build on it.

**Limitations**

Due to the pilot nature of this study, it has limitations. The sample is not representative of the high school population across the U.S., as participants were clustered in four private schools in one Southeastern state. Further, the demographic characteristics of the participants do not match those of the U.S.; for instance, white females are overrepresented. Thus, this study should be considered as providing initial evidence for the potential efficacy of a program rather than as generalizable to the population. Second, the sample size was just large enough to test for pre-post differences; we only had statistical power to detect significant differences at a medium effect size; however, we would ideally be able to test for significant differences for a small effect size, given the Global Textbook Program is low dosage and not resource intensive. Third, the study contained no control or comparison group and thus was unable to account for time effects. Students’ experiences outside of the GTP may account for the positive outcomes. Although classrooms are structured areas for students to learn aspects of intercultural competence, it is not the only setting in which students grow in this field. Intercultural competence is a lifelong process that is continually enhanced through a range of settings and interactions ([Barrett et al., 2014](https://www.sciencedirect.com/science/article/pii/S0147176718305200#bib0045)). Fourth, there was no concurrent measure of fidelity of implementation. Due to the pilot nature of this study and in response to concerns of the designers of the program, we did not ask program coordinators to document in time the percentage of each lesson’s curriculum delivered. Instead, we asked coordinators at the conclusion of the program to estimate the percentage of the curriculum delivered. Fifth, schools differed with respect to frequency and length of meetings, as these decisions were subject to school schedules and were determined by the coordinator and administration of each school. Some schools were able to meet more frequently throughout the year than other schools throughout the school year. Due to Covid-19 Closures, none of the schools were able to complete the curriculum as no coordinator reported greater than a 75.00% completion rate. Sixth, due to Covid-19 spring interviews were all conducted online, unlike the fall interviews which were conducted mostly in person. Seventh, while the flexibility of the program curriculum can be viewed as a strength, students across schools did not receive a standardized curriculum after the first two topics. Last, our analyses did not account for the nested nature of the data, with students nested within schools.

**Implications for Research**

The non-significant increases in this modest pilot study across both perceived and actual global competence for all three student learning outcomes, including small-to-medium effect sizes for actual cultural self-awareness and actual intercultural communication, may encourage researchers to continue to examine the efficacy of the Global Textbook Program, perhaps with an increased sample, a comparison group, and an increased dosage (i.e., more hours in the program and complete the program). Although age may impact the rate at which an individual can increase global competency (Zhang et al., 2017), it is important for researchers and practitioners to provide students of all ages access to opportunities to enhance their global competency.

Exposing students to such intercultural competent curriculums allows for them to be better prepared for college-level classes. Previous global competency interventions with similar curriculum and instructional time have yielded significant positive results for college students (e.g., Brunsting et al., 2018).

**Conclusion**

This modest study designed to examine efficacy of a pilot implementation of a pedagogical program designed to enhance high school students’ global competency. Students were only able to complete roughly three-quarters of the program, as Covid-19 related school closures and transition to online learning led to a moratorium on extracurricular programs, including the Global Textbook Program. Positive, yet non-significant, gains across all three constructs of global competency from pre- to post-program provide some encouragement that an enhanced Global Textbook Program with additional instructional time and curriculum and without interruption due to the pandemic may be efficacious for increasing high school students’ global competency.

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Table 1

*Participant demographic information*

|  |  |  |
| --- | --- | --- |
| Participants | *n* | % |
|  |  |  |
| **Gender** |  |  |
|  Female | 19 | 61.29 |
|  Male | 12 | 38.71 |
| **Race** |  |  |
|  American Indian or Alaska Native  | 1 | 3.33 |
|  Asian | 7 | 23.33 |
|  Black or African American | 3 | 6.67 |
|  Native Hawaiian or Pacific Islander | 0 | 0 |
|  White  | 19 | 63.33 |
|  Two or more races | 1 | 3.33 |
| **Grade** |  |  |
|  9 | 2 | 6.67 |
|  10 | 4 | 13.33 |
|  11 | 17 | 56.67 |
|  12  | 8 | 26.67 |

*Note.* Not all percentages add up to 100% due to missing data or rounding. Students were provided the option to choose from a variety of gender options including female, male, transgender, genderqueer, and other.

Table 2

*Means, standard deviations, and intercorrelations among non-dichotomous study variables*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | *M* | *SD* |
| 1. II (Pre Int) | 1 |  |  |  |  |  |  |  |  |  |  |  | 1.93 | .66 |
| 2. SA (Pre Int) | .39\* | 1 |  |  |  |  |  |  |  |  |  |  | 2.07 | .72 |
| 3. IC (Pre Int) | .07 | .59\*\* | 1 |  |  |  |  |  |  |  |  |  | 2.00 | .72 |
| 4. II (Pre Surv) | .13 | .01 | -.03 | 1 |  |  |  |  |  |  |  |  | 5.25 | .55 |
| 5. SA (Pre Surv)  | .41\* | -.06 | -.11 | .15 | 1 |  |  |  |  |  |  |  | 4.91 | .80 |
| 6. IC (Pre Surv)  | .20 | .13 | .11 | .65\*\*\* | .38\* | 1 |  |  |  |  |  |  | 5.02 | .64 |
| 7. II (Post Int) | .27 | .32 | .16 | .10 | .12 | .05 | 1 |  |  |  |  |  | 2.04 | .64 |
| 8. SA (Post Int) | -.03 | .21 | .12 | -.02 | -.15 | -.01 | .46\* | 1 |  |  |  |  | 2.29 | .85 |
| 9. IC (Post Int) | .04 | .46\* | .25 | .10 | -.27 | -.03 | .53\*\* | .64\*\*\* | 1 |  |  |  | 2.21 | .63 |
| 10. II (Post Surv)  | .33 | .07 | .07 | .70\*\*\* | -.02 | .78\*\*\* | .03 | -.09 | .07 | 1 |  |  | 5.29 | .61 |
| 11. SA (Post Surv) | .23 | .26 | .32 | .51\*\* | .07 | .58\*\* | .23 | .33 | .23 | .63\*\*\* | 1 |  | 5.01 | .69 |
| 12. IC (Post Surv) | .26 | .32 | .23 | .42\* | .14 | .75\*\*\* | .27 | .12 | .27 | .72\*\*\* | .72\*\*\* | 1 | 5.06 | .78 |

*Note.* II = Intercultural Inquiry; SA = Self Awareness; IC = Intercultural Communication; Int = Interview; Surv = Survey

\* *p* < .05, \*\* *p* < .01, \*\*\* *p* < .001. Interviews scores ranged from 0 to 4; Survey responses ranged from 1 to 7.

Table 3

*Two-tailed paired t-tests of mean difference of perceived knowledge competence and usefulness of nine student learning outcomes from pre-test (fall) to post-test (spring)*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Fall *M* | Spring *M* | Δ*M* | *t* | *d* |
| Interview  |  |  |  |  |  |
|  Intercultural Inquiry | 1.93 | 2.04 | .11 | *t*(27) = -.72 | .16 |
|  Self-Awareness | 2.07 | 2.29 | .22 | *t*(27) =-1.14 | .27 |
|  Intercultural Communication | 2.00 | 2.21 | .21 | *t*(27) = -1.36 | .32 |
| Survey  |  |  |  |  |  |
|  Intercultural Inquiry | 5.25 | 5.29 | .04 | *t*(27) = -.46 | .07 |
|  Self-Awareness | 4.91 | 5.01 | .10 | *t*(27) = -.51 | .13 |
|  Intercultural Communication | 5.02 | 5.06 | .04 | *t*(27) = -.42 | .06 |

\**p* <.05, \*\* *p* <.01, \*\*\* *p* <.001.