Exploring the Effects of a Cross-cultural Service-Learning Program on Intercultural Competence of Participants

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Abstract

Background: Service-learning as a pedagogy and curricular consideration to revitalize undergraduate education has been flourishing in the Asia-Pacific Region for years. The W. T. Chan Fellowship Program is designed as an intercultural service-learning program, with the fellows coming from China and Hong Kong, to experience service-learning in the United States.

Aims: This study investigates the effects of service-learning international program on intercultural competence of participants, using a pre-test and post-test approach.

Sample: All twelve fellows involved in the W.T. Chan Fellowship Program.

Method: Cross-Cultural Adaptability Inventory (CCAI) was utilized to measure intercultural competence of participants. The CCAI scores of the participants were compared prior to and after the program to measure any change during the period.

Results: The results using a t-test analysis indicated that students who participated in the W.T. Chan Fellowship program showed a significant increase in total score of CCAI as well as in each dimension after completion the program. Data analysis also revealed that participants without previous intercultural experience gained significantly more in the dimension of emotional resiliency than those who had.

Conclusion: As an intercultural service-learning program, participants can develop international competency, particularly in the areas of Emotional Resilience, Flexibility/Openness, Perceptual Acuity, Personal Autonomy. The findings of this study can assist international educators to design more effective education programs that would aid students in attaining the desired knowledge, skills and competencies.

Keywords: Intercultural competence, Service-learning program, Cross-cultural adaptability
**Introduction**

Increased international inter-dependence and interaction have led to the need for greater interpersonal contact and effectiveness across national and cultural boundaries. As a result, there has been a great deal of interest on development of intercultural competence, with institutions seeking ways to develop “global-ready students”—whether through study abroad, service-learning, or international volunteer projects. These programs now play an increasingly vital role in developing young people’s skills and attitudes to function effectively in intercultural context. Given an increase in the kinds of programs offered to develop intercultural competence, studies on their effectiveness in developing intercultural competence need to be conducted.

The purpose of this study is to determine the impact of intercultural experience, provided by a cross-cultural service-learning programs, on the participants, in an effort to gain better understanding of the role of service-learning program in developing individual’ intercultural competence. The study attempts to assess the effects of the W.T. Chan Fellowships Program at University of California-Los Angeles (UCLA) and University of California-Berkeley (UCB) on participants’ intercultural competence, using a validated instrument to measure changes in participants’ level of intercultural competence before and after the program. Further, it will investigate the impact of variable of previous intercultural experience on participants’ intercultural competence change. The quantitative study can provide concrete evidence of how participants’ intercultural competence level shifts over a prolonged period of time. Observation method and focused group discussion will be also conducted with an objective of analysing the participant’s reflection on their service experience. The qualitative study can give us better understanding of learning process of the participants. This study is expected to assist international educators to develop effective education programs that would aid students in attaining the desired competency.

**Literature Review**

The quest to determine what intercultural competence is and factors related to this competence have stimulated a great deal of research. Scholars have examined intercultural competence in various ways. One accepted definition described intercultural competence as “set of cognitive, affective, and behavioural skills and characteristics that support effective and appropriate interaction in a variety of cultural contexts” (Bennett, 2009, p.97). In Matsumoto (1999)’s study, he concludes that the four most basic elements of intercultural competence are tolerance of ambiguity, critical thinking, openness/flexibility and self-efficacy.

As Hopkins (1999) stated “intercultural learning programs take many forms, but all share the characteristics that, by their very nature, they provide students with a healthy dose of experiential learning. Immersing oneself in another culture provides new opportunities for learning-by-doing, virtually twenty-four hours a day.” (p.36) In recent years, service-learning has gained popularity as a form of experiential education. Permaul (2009) deemed that “Service-learning is an active form of teaching and learning in which all involved, namely the students, faculty, community sponsors, mentors, and those served, engage together in activities, that address human and community needs, with structured opportunities designed to promote learning and the development of all.”

There have been a number of studies investigating the benefits of various programs which have the goal of developing intercultural skills and knowledge among participants. Martin (1987) investigated the relationship
between perceived intercultural competence and sojourn experience, as well as measuring various cognitive, affective and behavioral aspects of intercultural competence with three groups of student sojourner, each having various amounts of intercultural experience. Black & Mendenhall’s (1990) comprehensive review of twenty-nine empirical studies of cross-cultural training effectiveness determined that more rigorous designs and larger samples are required in order to clearly support the proposition that cross-cultural experience has a positive impact on cross-cultural effectiveness. Williams (2005) compared two specific skills, intercultural adaptability and intercultural sensitivity by comparing students who participated in study abroad programs as oppose to those who remained at their home campus, by pretesting and post-testing both groups. Results indicated that students who studied abroad exhibited a greater change in intercultural communication skills after their semester abroad than those who stay at their home campus. Yashima (2010) investigated the effects of joining a short-term international volunteer work project on the participant’s intercultural competence, including openness toward different cultures as well as the willingness to interact with people from different cultures, international awareness, interpersonal communication skills and self-efficacy using a quasi-experimental procedure. The results showed that there was a significant difference between students who participated in the international volunteer work and non-participants after controlling for pre-existing differences in all of the variables studied.

Bennett (1986, 1993) developed the model of Intercultural Development Inventory (IDI) to measure individual’s intercultural sensitivity. The result of this work is a 50-item, paper-and-pencil instrument that measured intercultural competence, with 10 additional demographic items included. Another commonly used instrument in intercultural competence is the Intercultural Sensitivity Scale (ISS) designed by Chen and Starosta (1997). Exploratory factor analysis generated a 24-item intercultural sensitivity scale with five factors: interaction engagement, respect for cultural differences, interaction confidence, interaction enjoyment and interaction attentiveness.

Research by Kim (1991), suggests that intercultural competence results from adaptability, the Cross-Cultural Adaptability Inventory (CCAI) instrument offers a good match for evaluating adaptability. Kelly & Meyers (1995) developed the CCAI to help individuals identify their strengths and weaknesses in cross-cultural effectiveness and adaptability. Kelley and Meyers (1995) presumed the four skill areas predict success in cross-cultural adaptability and can be identified and improved through cross-cultural interaction. The CCAI instrument helps individuals identify their current strengths and weaknesses in these four critical skill areas for effective cross-cultural communications and interactions. These four skill areas include: Emotional Resilience, Flexibility/ Openness, Perceptual Acuity, Personal Autonomy. Emotionally resilient person is able to maintain a positive attitude, to tolerate strong emotions and to cope with ambiguity and stress. Other characteristics associated with emotional resilience include confidence in one’s ability to cope with the unfamiliar and to react positively to new experiences. Flexibility and openness refers to “adapting to different ways of thinking and acting, be open to ideas are different from one’s own and to people who are different from oneself” (Kelley & Meyers, 1995, P.14). Perceptual acuity is associated with attentiveness to interpersonal relations and to verbal and nonverbal behaviour. It also involves paying attention to the context to the communication, being able to read people’s emotions, being sensitive to one’s effect on others, and communicating accurately” (Kelley & Meyers, 1995, P.15). People with personal autonomy have a strong sense of identity, they know how to make and act on their own decisions while respecting the decisions of others. Because these four skills have been identified as important to
intercultural competence in previous literature review, this study has chosen CCAI as primary instrument to measure participants’ intercultural competence.

**W.T. Chan Fellowships**

The W. T. Chan Fellowship Program is designed as an intercultural service-learning program, with the fellows coming from China and Hong Kong, to engage in service-learning at either the Bay Area or Greater Los Angeles area of California in the United States. The Program has five major components, four mandatory and one optional in terms of participation. The primary mandatory component is performing an assigned internship in a community or governmental agency thirty-two hours a week (eight hours per day, four days per week). Many of the community-based agencies are non-profit organizations such as free clinic, homeless agent, arts education centre serving for youth from low-income families. Chan Fellows assist by providing various direct and indirect services. Examples of direct service are assisting fundraising project, offering free books to child patient, or providing safe and supportive environment to homeless women with mental illness. Indirect services might include writing reports, developing the online volunteer application system, writing questionnaire surveys, and other administrative tasks. Different organizations address different needs and it is the task of the Chan Fellow to find a way to respond to the challenges and make a valuable contribution. Another mandatory component is the fellows are required to live with a local resident preferably close to their place of internship and accessible to public transportation. Weekly seminar conducted at the local University of California campus on social issues, public policies and role of non-profit and social agencies in the community. Weekly collective reflection session guided by a facilitator to draw learning gained from the internship and living with non-Chinese in local communities, as well as their interaction and other experiences in the community. The weekly seminar and reflection meeting serve to promote international and intercultural knowledge and sensitivity of Chan Fellows.

The one optional component is exploration of student life on the local campus interacting with American and other international students and attendance at any student and cultural events offered at the local campus.

**Research Questions**

This study focuses on two research questions. They are:

To assess the effects of joining the W.T. Chan Fellowship program on participants’ intercultural competence, as measured by Cross-Cultural Adaptability, defined by Kelly and Meyers? (1995) Quantitative study is designed in an effort to measure the changes on participants’ intercultural competence with four aspects related to, through the participation in W.T. Chan Fellowships Program. The measuring instrument for this study is the Cross-Cultural Adaptability Inventory (CCAI), developed by Kelley & Meyers (1995). The CCAI instrument most closely matches the developmental objectives of the W.T. Chan Fellowships Program. The study adopted the 50-item questionnaire, comprised of four dimensions. Qualitative data was also used to support the quantitative data to understand what factors that contributed to their intercultural competence.

Do previous intercultural experiences of the participants affect the change of the participants’ intercultural competence level during this program? This question will be assessed by comparing the CCAI scores of two sub-groups among the participants, one sub-group with previous intercultural experience and the other sub-group without to determine whether their previous intercultural experiences affected intercultural competency improvement.
Research Methodology

To answer the research questions, two key variables are involved. The independent variable is the service-learning program with objectives related to development of intercultural competence and the W.T. Chan Fellowship Program is chosen as the sample of the service-learning program. The dependent variable being intercultural competence of service-learning program participants and, in this case, the 12 fellows in the 2010 class of the Chan Fellowship Program serve as the sample.

The sample group is 12 participated in the six month-long W.T. Chan Fellowships Program from August 2010 till January 2011. The participants who joined the program come from Lingnan University in Hong Kong and Zhongshan University in Guangzhou, Mainland China. Fellows are selected from among upper division students (third and fourth-year undergraduates), those who have recently earned their bachelor’s degree, and graduates students, with a range of majors and backgrounds. The group consists of ten female and two male participants.

This study uses pre-test/Post-test approach to address the proposed research questions. Chan Fellows voluntarily completed the CCAI questionnaires prior to and after the completion of the service-learning program. Their responses to the questionnaire yield individual scores on the four CCAI dimensions, Emotional Resilience (ER), Flexibility/Openness (FO), Perceptual Acuity, (PA) and Personal Autonomy (PA).

In completing the self-administered CCAI questionnaire, answers were circled on a scoring sheet with six options ranging from definitely true to definitely not true. The participants were also asked to supply information on their previous intercultural experience (when, where, how long and for what purpose). The questionnaire was first distributed to the participants in August 2010, right after the participants arrive in Los Angles and Berkeley, California. The same questionnaire was distributed again in January 2011 after completing the program.

Observation method and focus group discussion were conducted during the program to analyse participants’ learning experience, with an objective of understanding the participants’ reactions to the service-learning experience and how they perceive its impact on their intercultural competency.

Data Analysis and Results

Qualitative Data Analysis

By observing the weekly reflection meeting, which provide an opportunity for the fellows to express and share how they perceive and understand the issues on site and the surrounding community, it was learned that the participants acknowledged positive changes on their intercultural competency through the process of the service-learning experience. Participants remarked that the service was not always easy, especially at the beginning, they often experienced frustration, and some of this frustration was due to language difference: communication breakdowns are perhaps more frustrating when there is work to be done than when students are sitting in a classroom or tourists are travelling to some scenic spot. Participants also spoke of isolation they initially perceived at different working culture and style. Through days filled with uncertainty, excitement and wonder while fighting cultural barriers as well as interpersonal conflicts, participants began to built self-confidence and forming friendship with staff and other volunteers. One participant shared that “Now I enjoy every minute working here. I know I have said this for many times but I really mean it. I found everyone I work with has different talents.” It is important to tolerate strong emotions and to cope with ambiguity, and a liking for and comfort with all kinds of people whose thinking and acting might be different with one’s own. The combination of action and reflection allowed the participants to develop
creative and innovative solutions to the problems they encountered. Many participants expressed that they felt their performances in the host agency were improving and they were be able to face and manage the challenges related to the job in better way.

The focused group discussion focused on the aspects of culture differences that fellows confront in a service-learning situation abroad. Place and language change, as they do in conventional study abroad, but the fellows are confronted with social situations, and the need to adjust to them, sometimes very different from those experienced at home. Interaction with the home stay family is another major part which participants discussed about. During the entire service-learning program, the fellows resided with local resident and ate the majority of their meals with the family. Although some participants admitted that they had difficult time at first due to the high expectations and communication difficulty, all participants expressed the value in living with a local family and their integration into host family life through spending time together, playing with children and attending the family and community events and ceremonies. One participant shared that “I don’t have to call my family or friends back home everyday anymore, because I have made new friends here, and I am having a good time with my host family and housemates.”

Quantitative Data Analysis

The quantitative data for this study consisted of the individual and group scores on the four dimensions of the CCAI. In response to Research Question 1, a paired-samples t-test was utilized between the pre-test and post-test scores. Testing the pre-test scores and the post-test scores of the sample group showed a significant results in each of the four dimensions of CCAI at .05 level of significance.

Table 1

<table>
<thead>
<tr>
<th>CCAI Scales</th>
<th>Pretest (n=12)</th>
<th>Posttest (n=12)</th>
<th>t- statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D.</td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>Total</td>
<td>210.92</td>
<td>16.20</td>
<td>235.45</td>
<td>19.56</td>
</tr>
<tr>
<td>ER</td>
<td>74.08</td>
<td>8.03</td>
<td>83.58</td>
<td>9.11</td>
</tr>
<tr>
<td>FO</td>
<td>59.58</td>
<td>8.72</td>
<td>68.50</td>
<td>6.61</td>
</tr>
<tr>
<td>PAC</td>
<td>47.08</td>
<td>3.34</td>
<td>50.92</td>
<td>3.92</td>
</tr>
<tr>
<td>PA</td>
<td>30.17</td>
<td>2.29</td>
<td>32.42</td>
<td>2.19</td>
</tr>
</tbody>
</table>

As illustrated in Table 1, for the total score of CCAI, the post-test mean (235.45) was significantly higher (P<.05) than the pre-test mean (210.92). The same situation was found for each of the dimensions. As for emotional resiliency (ER), the post-test mean (83.58) was significantly higher (P<.05) than the pre-test mean (74.08). With regard to flexibility/openness (FO), the post-test mean (68.50) was also significantly higher (P<.05) than the pre-test mean (59.58). In terms of perceptual acuity (PAC), the post-test mean (50.92) was significantly higher than the pre-test mean (47.08) as well. The post-test mean (32.42) in the dimension of personal autonomy (PA) was also significantly higher (P<.05) than the pre-test mean (30.17).

The second research question posed is whether participants with previous intercultural experience have greater gain in intercultural competency than their peers.
who do not. The sample was divided into two sub-groups, those with previous intercultural experiences (Group 1) and those without (Group 2). The t-test comparing the two sub-groups was conducted to determine any changes in intercultural competence.

Table 2

**Scale Score Means and Standard Deviations by Previous Intercultural Experience**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Previous international experience</th>
<th>Pretest Mean (S.D.)</th>
<th>Posttest Mean (S.D.)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>1 and 2</td>
<td>210.92 (16.20)</td>
<td>235.45 (19.56)</td>
<td>24.53</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>215.00 (19.83)</td>
<td>232.33 (13.20)</td>
<td>17.33</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>206.83 (11.99)</td>
<td>238.50 (25.38)</td>
<td>31.67</td>
</tr>
<tr>
<td>ER</td>
<td>1 and 2</td>
<td>74.08 (8.03)</td>
<td>83.58 (9.11)</td>
<td>9.50</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>78.83 (7.28)</td>
<td>81.17 (7.17)</td>
<td>2.33</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>69.33 (7.55)</td>
<td>86.00 (10.83)</td>
<td>16.67</td>
</tr>
<tr>
<td>FO</td>
<td>1 and 2</td>
<td>59.58 (8.72)</td>
<td>68.50 (6.61)</td>
<td>8.92</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>57.83 (10.15)</td>
<td>68.17 (4.62)</td>
<td>10.33</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>61.33 (7.55)</td>
<td>68.83 (8.64)</td>
<td>7.50</td>
</tr>
<tr>
<td>PAC</td>
<td>1 and 2</td>
<td>47.08 (3.34)</td>
<td>50.92 (3.92)</td>
<td>3.84</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>48.50 (1.87)</td>
<td>50.50 (1.98)</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>45.67 (4.03)</td>
<td>51.33 (5.43)</td>
<td>5.67</td>
</tr>
<tr>
<td>PA</td>
<td>1 and 2</td>
<td>30.17 (2.29)</td>
<td>32.42 (2.19)</td>
<td>2.25</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>29.83 (3.19)</td>
<td>32.50 (2.17)</td>
<td>2.67</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>30.50 (1.05)</td>
<td>32.33 (2.42)</td>
<td>1.83</td>
</tr>
</tbody>
</table>

*Note.* 1: a group with previous intercultural experience. 2: a group without previous intercultural experience.

Table 2 shows the means and standard deviations of each variable assessed for the two sub-groups of participants. Group 2 who did not have previous intercultural experience have greater increase (31.67) in the total mean than the increase level (17.33) of Group. For ER, Group 2 demonstrated a greater increase (16.67), than Group 1, which had a small change (2.33). As for FO and PA, the participants with previous intercultural experience show slightly higher change level than those who did not. The participants with previous experience averaged a 10.33 increase on FO and 2.67 on PA, whereas those without previous intercultural experience, averaged a 7.50 increase on FO and a 1.83 increase on PA.

Table 3

**CCAI score changes by previous intercultural experience**

<table>
<thead>
<tr>
<th>CCAI Scales</th>
<th>Group 1 (n=6)</th>
<th>Group 2 (n=6)</th>
<th>t- statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean change</td>
<td>Mean change</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>17.33</td>
<td>31.67</td>
<td>-1.304</td>
<td>.221</td>
</tr>
<tr>
<td>ER</td>
<td>2.33</td>
<td>16.67</td>
<td>-3.883</td>
<td>.003</td>
</tr>
<tr>
<td>FO</td>
<td>10.33</td>
<td>7.50</td>
<td>.477</td>
<td>.644</td>
</tr>
<tr>
<td>PAC</td>
<td>2.00</td>
<td>5.67</td>
<td>-1.508</td>
<td>.162</td>
</tr>
<tr>
<td>PA</td>
<td>2.67</td>
<td>1.83</td>
<td>.403</td>
<td>.695</td>
</tr>
</tbody>
</table>
T-test results indicate that participants without previous intercultural experience gained significantly more in emotional resiliency (ER) than those who had. As illustrated in Table 3, those without previous intercultural experience show a substantially higher gain level on ER ($P<.05$) than those with. There was no significant difference in the other three dimensions between the group with previous intercultural experience and those who without.

**Discussion and Conclusion**

This study attempted to investigate two research questions regarding the effect of service-learning program on participants’ intercultural competence level. As for research question 1, the results indicate that students who participated in the W.T. Chan Fellowship program showed a significant increase in each dimension of CCAI score after the program. Among the four dimensions, emotional resilience (ER) is the most statistically significant changed dimension. It can be concluded that the independent variable (participated in the service-learning program) overall has a positive influence is on the ER score, followed in order by FO, PAC and PA. With respect to research question 2, the results show that the group without previous intercultural experience gained greater in total score of CCAI as well as in the dimensions of ER and PAC even though the group with previous intercultural experience demonstrated significantly higher score in the pre-test. The results also indicate that joining the service-learning program further developed the group with previous intercultural experience in the dimension of FO and PA to an even higher level. The possible explanation to the results could be the pre-existing scores for the group with previous experience were already high, and therefore, it left less room for growth as compare to the group without. Another possible explanation suggests that competence in FO and PA may require a longer time to emerge in individuals, while competence in EO is easier to attain.

The conclusions reached by this study must be tempered by the limitations of the study. The study selected a non-random and small group, so it is difficult to determine if a larger random group from a variety of intercultural service-learning programs would yield similar results. Besides, it is difficult to identify more precisely which parts of the Chan Fellowship program made an impact on the individuals in the four areas. But, even with that small sample, it can be concluded that the independent variable, namely the entire experience of the program contributed to the change. The entire service-learning experience also included some related experience such as living in American homes, plus interacting with students and alumni, etc.

Since the results relied on a one group pre-test and post-test design, we cannot ascertain that changes are truly attribute to the independent variable—participation in service-learning program, the increase in CCAI score may caused by other factors.

The findings in many respects confirms the theory by Zlotkowski, which suggests that service and learning are co-dependent and equally important in service-learning programs by encouraging students to approach the learning experience with an open mind, together with a desire to serve (Zlotkowski, 1998). Multicultural service-learning allows students to learn through engaging in experiential and reflection-oriented activities, with special reference to its cultural context (Lai, 2009). The W.T. Chan Fellows Program provides such opportunities for participants to interact with their new environment, with local staff and volunteers. Throughout the six-month long program, the participants were assigned to specific work under the supervision of their supervisors. They needed to learn to accomplish the task by cooperating with people coming from different cultural background. These interactions can increase participants’ perceptual acuity as well as
encourage them to become more flexible and open. The Program arranged weekly seminars for participants to share and reflect on what they have encountered in the past week, allowing the participants to acknowledge every small success in the new culture. These successes may in turn enhance the ability of the participants to cope with the unfamiliar and to react positively to new experiences. Besides, there were many opportunities for participants to compare and contrast their own culture with the American culture; it may also help the participants develop more personal autonomy.

**Recommendations for Further Study**

This study offered empirical evidence on the effectiveness of one service learning program with the goal of developing individual intercultural competence. Considering the constraints of this study, there are some recommendations to consider for further study. First, the use a control group, one not engaged in service-learning programs, can be helpful. By controlling the pre-existing differences, it will allow us to exclude other factors that contribute to the increase in score. Second, a replication of the study can be given to subsequent classes of W.T. Chan fellows, to build up the database, in an effort to confirm the current results. Moreover, the sample group of this study is relatively small, a study with a significantly larger number of subjects, in varying roles and contexts, could further explore the relationships between participants’ demographic variables and intercultural competency.

The findings of this study nevertheless can begin to inform international educators in identifying factors to include in intercultural service-learning programmed design, which can aid the students in developing the necessary knowledge, skills and competencies while participating in intercultural service-learning programs.

**References**


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