



Serving Other People: An Empirical Study of the Impact of Service Learning on the Moral Character of Students in Japanese Higher Education-A Pilot Test

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| | ABSTRACT |
| <p>2016 Research Leap/Inovatus Services Ltd. All rights reserved.</p> <p>DOI: 10.18775/jibrm.1849-8558.2015.53.3005 URL: http://dx.doi.org/10.18775/jibrm.1849-8558.2015.53.3005</p> | <p>This empirical research exercise attempted to measure the impact of service learning on the students' sense of community service, virtue of responsibility, and the Common Good. Assessing the impact of community service on student's attitude involved utilizing the Community Service Attitude Scale questions developed by S. H. Schwartz to measure such items as Awareness, Connectedness, Normative Helping Behavior, Seriousness, and Intentions towards community service. The impact of service learning on students' awareness and on how it engendered in them a positive attitude towards the common good was also assessed.</p> |
| <p>Keywords: Measurement, Community service, Responsibility, Common good</p> | |

1. Introduction

In Japanese higher education, volunteering has become an important part of many curricula; since the Great Hanshin Earthquake universities have been giving credits to students who devote their time to volunteer activities. The Ministry of Education, Culture, Sports, Science & Technology is actively encouraging universities not only to give credits to student volunteers but to establish volunteer activity centers on campuses to facilitate student volunteering, and to establish service learning programs in their curricula to equip students with the skills and knowledge necessary if they are to work effectively in their local community and/or in an international setting, and so learn the importance of transformative education.

In the discussion and practice of service learning and volunteering by college students, the virtues, especially that of responsibility, play an important role. Indeed, during their four years at university, through socially participatory programs, students are transformed and grow morally, cultivating and enhancing communication skills, social awareness, and virtues such as responsibility, respect and benevolence, thus contributing to the common good.

Reitaku University in Japan, where I teach, offers a service-learning program to its students, I have conducted empirical research on the impact of service-learning on their attitudes to community service, the virtue of responsibility and the Common Good. To assess the impact of community service on student's attitude, I employed the Community Service Attitude Scale (Shiarella et al. 2000) questions to measure such items as Awareness, Connectedness, Normative Helping Behavior, Seriousness, and Intentions towards community service.

My research was also designed to measure the impact of service leaning on students' awareness and on engendering in them a positive attitude towards the common good, including environmental protection, the prevention of global warming, and an awareness of national security.

2. Measuring the Effects of Service Learning

2.1 Challenges in Measuring the Effects

Service learning is getting more popular in American higher education, but existing studies on it suggest that attempts to measure the gains that students make from participating in service learning programs must overcome several distinct challenges. Four in particular merit further attention.

The first is the short duration of such programs. One of the most popular forms of service learning involves a service learning component being “added on to” an existing class, whereby students are required to attend a semester long or shorter program for few hours a week during that period of time (Tyron et al. 2008, pp. 16). When exposure to the service learning experience is limited it is difficult to provide a deep experience capable of transforming students’ attitude.

Secondly, a review of the literature on service learning, in terms of the moral impact on students, shows that the results mixed. Surveys of students’ moral development indicated that despite the fact that scores on moral development did not change, students who took service learning courses self-reported that they became more positive, felt more compassionate and sensitive toward others, had a greater understanding of how to solve social problems, and aspired more strongly to improve the world (Bernacki and Jaeger 2008, pp. 5; Brandes and Randall 2011, pp. 27).

Thirdly, the literature reveals the need for more rigorous research design, including pre-tests and post-tests, control groups, and the use of multi-item scales, among others (Bringle et al. 2004, p. 25). One influential survey, for example, utilized pre- and post-test assessments of positive outcomes assessing civic responsibility, the control of potentially confounding variables, service learning projects that student groups selected based on their own preferences, and multi-item scales, among other features (Brandes and Randall 2011, pp. 21). Another study emphasized the need for different paradigms when measuring and understanding the impact of service learning and its influences on students’ values or moral attitudes (Shumer 2000).

Fourthly, the importance of increased understanding of the role that service learning plays, and of students’ interest in the quality of service learning activities, needs emphasis. K. Morton (1995, p. 29) proposed charity, project, and social change as paradigms as agents that may eventually transform individuals and communities. Since these “suggest different ways of defining issues and understanding change over time,” teachers should recognize such differences and teach appropriately. Morton advised teachers to offer adequate explanations of “the range of service that exists” so that students can expand their views of what service is. Such an approach helps to prevent any mismatch between a type of service learning and what students find interesting or meaningful.

3. Research Design

3.1 Hypothesis

As was the case with Tyron et al. (2008), at Reitaku University in Japan where this survey was conducted, there was only one class where service learning was taught. It met once a week for 90 minutes, fifteen times in one semester. The class

instructor disclosed to me that not much could be done within such a limited time frame to provide an opportunity for students to change their attitudes through a service learning experience. As Brandes and Randall (2011, pp. 22-3) note, firstly, courses incorporating service learning education typically tend to have smaller classes, and the time allotted for change to occur is limited to one semester, a period usually of four months. These mean that, statistically, there is only a low chance of detecting any effective transformation in students’ attitude. Secondly, longitudinal follow-up to assess continuing effects is not done, so researchers can only evaluate service learning education twice during a particular semester by giving pre- and post-tests. Thirdly, the type of outcome assessed also affects the capacity of a study to measure significant differences over a short time frame. Fourthly, one needs to include theoretically and empirically important covariates or statistical controls to maximize a study’s ability to detect change.

The study presented here faced similar difficulties and limitations to those just stated. Firstly, it suffers from a small sample size. 49 students took pre-test, but only 35 provided valid data, and of these 35, only 17 engaged in voluntary activities and took the post-test. Secondly, the SL course at Reitaku University also did not gather follow-up information once the course had ended. Therefore, a set of pre- and post-tests could be administered only once. Thirdly, the SL course lasted for only two semesters (April - July and September - January), and such a short period did not allow us to obtain data that might show a significant transformation in students’ attitude.

Despite these challenges, this study hypothesizes that students’ scores in three areas of measurement (Community Service Attitudes Scale, virtue of Responsibility, and sense of Common Good) would increase after involvement in volunteer, civic activities between pre- and post-tests.

3.2 Research Questions

Based on the hypothesis explained above, this study posits the following research questions: RQ 1: Does service learning have an impact on students’ attitude toward community service? RQ 2: Does service learning have an impact on students’ virtue of responsibility?

RQ 3: Does service learning have an impact on students’ sense of the common good, i.e. environmental protection, enhancement of voting behavior, and awareness of national security?

4. Method

4.1 Participants

This study sought to compare the results of the pretest for students who never attended an SL course, with those of

students who took the course in both the first and second semesters.

4.1.1 Those who never took a service learning course

The sample analyzed here was provided by 58 undergraduate students at Reitaku University, enrolled in the Sociology class which I teach, who volunteered to answer the questionnaire on December 12, 2017. 31 of them (21 males and 10 females) provided valid data for analysis²⁶. The students ranged in age from 18 to 20. There were 18 freshmen, and 13 sophomores. Four had experience of volunteer activities and 27 did not.

4.1.2 Those who took the service learning course

In the first semester of 2017, 49 undergraduate students at Reitaku University, enrolled in the Service Learning Program taught by Professor Ritsu Fuyutsuki, took the pre-test on July 15, 2017. 35 of them (9 males and 26 females) provided valid data for analysis. These students ranged in age from 18 to 20 (29 freshmen, four sophomores, and two juniors). 18 had experience of volunteer activities and 17 did not. After a series of lectures, the instructor asked the students to investigate possible volunteer opportunities on their own, and to identify one that they wanted to engage in during the summer break from early August through late September.

A total of 20 students, who had participated service learning activities during the summer break, took the elective SL course in the second semester, starting in September, 2017 and ending in January, 2018. A post-test was given to these students to assess their performance in their chosen civic activities at two separate times: The first post-test was given on November 24, 2017 to 9 students (7 of whom provided valid data), and the second on January 26, 2018 to 11 students (10 of whom provided valid data). The final sample for analysis came from 5 males and 12 females, ranging in age from 18 to 21 (14 freshmen and 3 sophomores).

4.2 Measurement Techniques Used

(1) Community Service Attitudes Scale (CSAS)

The Community Service Attitudes Scale (Shiarella et al. 2000) measures university students' attitudes towards community service. It is based on S. H. Schwartz' model of altruistic helping behavior. The model identifies eight sequential steps in a helping action, divided into four phases: (1) activation steps (awareness of need, actions to relieve need, ability to provide help, sense of connectedness); (2) obligation step (empathy), or the moral obligation to respond; (3) defense steps (costs and benefits, seriousness of need and responsibility to respond); and (4) response step (intention) for engagement in helping behavior. In order to make the survey less complicated and thus more manageable, however, the above list from Schwartz's model was modified to exclude defense steps. Instead the questionnaire included the defense step in an open-ended question.

The study therefore included: (1) awareness, a measure of the survey respondents' perceived awareness of community needs; (2) connectedness, a measure of their perceived connectedness to their community; (3) moral obligation, a measure of their perceived personal or situational moral obligation to help their community; and (4) intention to community service, a measure of their intention to help their community.

Based on the above definitions, and adapting and modifying the approach of Bringle et al. (2004) and Coe et al. (2014), questionnaire items were created for CSAS. Based on the CSAS, a 7 level scale was utilized: 1 = strongly disagree, 2 = rather disagree, 3 = somewhat disagree, 4 = neither disagree nor agree, 5 = somewhat agree, 6 = rather agree, and 7 = strongly agree. One example of an item used was, "I feel bad that some community members are suffering from a lack of resources." Cronbach's alpha, a widely used assessment of internal-consistency reliability of a scale for this scale, was 0.7891 at pre-test, and 0.8094 at post-test (>0.7).

(2) The Virtue of Responsibility

The virtue of Responsibility is defined as "an attitude in which we perceive our role and the duties tied to that role," a duty for which people are held accountable to themselves, their family members, neighborhood and local community, school and workplace, and country (Ryan et al. 2011, p. 197). It consists of 1) responsibility to oneself, being accountable for maintaining and managing one's health or enhancing one's ability and skills, and increasing one's knowledge;

2) responsibility to family members, understanding and fulfilling one's duties and roles as a family member, and transmitting traditional values from generation to generation; 3) responsibility to neighborhood and local community, paying attention to the needs of the local community and thus fulfilling one's duties as a citizen; 4) responsibility in school and the workplace, with work being performed loyally, diligently, and honestly; and 5) responsibility to one's country, paying respect to the head of state, and performing one's duties as a citizen.

A 7 level was employed: 1 = strongly disagree, 2 = rather disagree, 3 = somewhat disagree, 4 = neither disagree nor agree, 5 = somewhat agree, 6 = rather agree, and 7 = strongly agree. One example of an item used was, "I assume responsibility for my words and behavior." Cronbach's alpha for this scale was 0.7746 at pre-test and 0.8407 at post-test (>0.7).

(3) The Environment and the Common Good

The virtue of responsibility is partly personal and partly public. As Brian Treanor (2010, pp. 13) notes, it is difficult to distinguish personal virtue from public virtue because human beings are social beings. As responsibility is defined here as a

duty whereby people are held accountable to themselves, their family members, neighborhood and local community, school and workplace, and country, the virtue of responsibility is partly personal and partly public. Responsibility as a private virtue contributes primarily “to individual well-being,” while responsibility as a public virtue contributes primarily “to the well-being of the community.” Environmental problems, detrimental to the health of a community, are the results of the collective actions of individual human beings. According to Mercedes Pardo et al. (2003, pp. 68), the “increasing importance of the environmental values” is one of the social factors that support the interpretation of the environment as a “common good of human society.” Destroying and altering the environment are part of traditional human behavior towards nature, transforming an ecosystem into a more economically productive system. Environmental concern arises when a society starts valuing nature in a positive manner in order to preserve it for succeeding generations to use and enjoy (Mercedes et al. 2003: 73).

A 7 level was employed: 1 = strongly disagree, 2 = rather disagree, 3 = somewhat disagree, 4 = neither disagree nor agree, 5 = somewhat agree, 6 = rather agree, and 7 = strongly agree. One example of a question asked was, “I assume responsibility for protecting natural environment of the planet Earth.” Cronbach’s alpha for this scale was 0.8474 at pre-test and 0.9168 at post-test (>0.7).

(4) National Common Good

I have argued in the previous section that the well-being of a community primarily hinges on a healthy environment and ecosystem. Economic stability is also extremely important to guarantee the soundness of a community. National security or national political stability seems to be more essential for that purpose than economic strength, however, because economic growth cannot be achieved while national security is threatened or jeopardized by domestic political unrest or military occupation or aggression by neighboring countries.

Aristotle’s *Nicomachean Ethics* states something to the effect that national security is a common good (interest), arguing “For even if the end is the same for a single man and for a state, that of the state seems at all events something greater and more complete whether to attain or to preserve; though it is worthwhile to attain the end merely for one man, it is finer and more godlike to attain it for a nation or for city-states” (Aristotle 1925). Aristotle implies that something attained for the nation is far greater than the same thing done for oneself, because the achievement can positively affect and profit the members of the nation protected by it.

A 7 level was employed: 1 = strongly disagree, 2 = rather disagree, 3 = somewhat disagree, 4 = neither disagree nor agree, 5 = somewhat agree, 6 = rather agree, and 7 = strongly agree. One example of a question

asked was, “Nothing is more important than the national security.” Cronbach’s alpha for this scale was 0.8207 at pre-test and 0.7935 at post-test (>0.7).

5. Results

5.1 Statistical Data

BellCurve Excel Statistics version 2.15 was used to conduct repeated measures ANCOVA (SCSA at Pre-test and Post-test) with covariates being pre-test students’ year in school, age, and previous experience and non-experience of service learning and volunteer activities. Male- female was used as a dummy variable. The hypothesis was that participating students would increase their awareness, intention, seriousness, connectedness measured by the Community Service Attitudes Scale, responsibility, sense of the Environment as a Common Good, and that of Nation as a Common Good.

Descriptive statistics and zero correlations for all study variables at pre- and post-tests are provided in Table 1, and the breakdowns of CSAS in Table 2. Descriptive statistics and zero correlations for all study variables from the data for those students who had never taken a service learning course (Previous Non-Classroom SL Experience: PNCSLE) are also listed in Tables 1 and 2. Positive changes were observed in the mean levels of all the dependent variables except for the NCG between those who had never had service learning and volunteer experiences (34.065) and those who engaged in service learning at the pre-test (32.629) by 1.436. as shown in the Table 1. It should be noted that no statistical analysis was available with Previous SL Experience Post-test because there was no variance due to the fact that the mean was 2 with the scale of 2 verbal anchors.

With regards to the Responsibility, Environmental Common Good and National Common Good, as shown in the Table 3, the significant differences found in the repeated measures test were the variables of CSCA Post-test and Responsibility Post-test ($p=0.017^*$), Responsibility Pre- and Post-test ($p=0.037^*$), CSCA Post-test and ECG Post-test (0.034^*), SL Experience Pre-test and NCG Post-test (0.020^*), Responsibility Pre-test and NCG Post-test (0.024^*), and Responsibility Post-test and NCG Post-test (0.024^*) only. Except for the above, all the variables tested did not show significant differences, and consistent with previous empirical work on small samples, our repeated measures ANCOVA tests failed to reach statistical significance on most of the variables.

Multiple regression analysis was also conducted with all the variables that showed significant differences in the repeated measures ANCOVA tests with covariates, revealing a significant causal relationship between Community Service Attitude Scale Post-test and Responsibility Post-test ($f=13.9840$, $p=0.0020^{**}$), and Responsibility Pre-test and Post-test ($f= 8.8793$, $p=0.0093^{**}$) as shown in Table 4. Due to the

fact that the data is quite limited (N=17), however, it is difficult to say that those students with a more positive attitude toward community service are more inclined to be responsible for other people or tasks, and that those who have experienced service learning activities in and outside the classroom are more likely to be responsible for the other people or task. It may be fair to say that the causal relationship detected by the multiple regression test could have been established by chance.

Table 1. Descriptive Statistics of Study Variables at Pre-Test and Post-Test with Previous Non- Classroom Experience

| | Mean | SD | Min | Max | α | Difference Mean |
|--|---------|--------|-----|-----|----------|-----------------|
| Previous Non-Classroom SL Experience Pre-T | 1.129 | 0.341 | 1 | 2 | - | |
| Previous Classroom SL Experience Pre-T | 1.514 | 0.507 | 1 | 2 | - | +0.385 |
| Previous Classroom SL Experience Post-T | 2 | 0 | 2 | 2 | | +0.486 |
| PNCsLE-CSAS | 53.000 | 11.541 | 26 | 73 | 0.8431 | |
| CSAS Pre-T | 94.200 | 14.113 | 68 | 117 | 0.7891 | +41.2 |
| CSAS Post-T | 100.353 | 12.165 | 73 | 119 | 0.8094 | +6.153 |
| PNCsLE-Responsibility | 36.613 | 6.835 | 24 | 49 | 0.8199 | |
| Responsibility Pre-T | 45.229 | 6.709 | 25 | 55 | 0.7746 | +8.616 |
| Responsibility Post-T | 48.000 | 5.000 | 39 | 55 | 0.8407 | +2.771 |
| PNCsLE-Environment CG | 37.419 | 5.117 | 28 | 48 | 0.3620 | |
| Environmental CG Pre-T | 53.629 | 10.614 | 32 | 70 | 0.8474 | +16.21 |
| Environmental CG Post-T | 56.118 | 10.799 | 38 | 70 | 0.9168 | +2.489 |
| PNCsLE-National CG | 34.065 | 7.908 | 16 | 49 | 0.7728 | |
| National CG Pre-T | 32.629 | 8.200 | 17 | 49 | 0.8207 | -1.436 |
| Nation CG Post-T | 36.176 | 6.023 | 26 | 48 | 0.7935 | +3.547 |

Table 2. Descriptive Statistics of CSCA Variables at Pre-Test and Post-Test with Previous Non- Classroom Experience

| | Mean | SD | Min | Max | α | Difference Mean |
|----------------------|--------|-------|-----|-----|----------|-----------------|
| PNCsLE-Awareness | 15.806 | 3.156 | 8 | 21 | 0.7354 | |
| Awareness Pre-T | 16.429 | 3.146 | 10 | 21 | 0.7075 | +0.623 |
| Awareness Post-T | 17.588 | 2.917 | 11 | 21 | 0.6612 | +1.159 |
| PNCsLE-Seriousness | 10.226 | 2.418 | 3 | 14 | 0.6245 | |
| Seriousness Pre-T | 10.743 | 1.975 | 7 | 14 | 0.5056 | +0.517 |
| Seriousness Post-T | 10.824 | 1.551 | 7 | 14 | 0.4159 | +0.081 |
| PNCsLE-Intention | 8.000 | 3.276 | 2 | 12 | 0.8852 | |
| Intention Pre-T | 11.857 | 2.088 | 8 | 14 | 0.5665 | +3.857 |
| Intention Post-T | 11.471 | 2.695 | 5 | 14 | 0.8543 | -0.386 |
| PNCsLE-Connectedness | 18.968 | 4.736 | 8 | 27 | 0.8057 | |
| Connectedness Pre-T | 24.143 | 5.986 | 13 | 35 | 0.8121 | +5.175 |
| Connectedness Post-T | 26.588 | 3.858 | 21 | 35 | 0.7961 | +2.445 |
| PNCsLE-NHB | 30.710 | 5.387 | 20 | 42 | 0.7880 | |
| NHB Pre-T | 31.029 | 4.409 | 20 | 40 | 0.6509 | +0.319 |
| NHB Post-T | 33.294 | 4.455 | 26 | 42 | 0.8559 | +2.265 |

Table 3. Correlation Matrix of Study Variables

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|-----------------|--------|--------|-------|-------|--------|--------|--------|------|------|------|----|
| 1 School year | - | | | | | | | | | | |
| 2 SL Ex: Pre-T | 1.000 | - | | | | | | | | | |
| 3 NSL Ex: Pre-T | 1.000 | 0.410 | - | | | | | | | | |
| 4 CSCA: Pre-T | 0.944 | 0.885 | 0.271 | - | | | | | | | |
| 5 CSCA: Post-T | 0.3211 | 0.982 | 0.869 | 0.670 | - | | | | | | |
| 6 R: Pre-T | 0.694 | 0.282 | 0.901 | 0.168 | 0.335 | - | | | | | |
| 7 R: Post-T | 0.659 | 1.000 | 1.000 | 0.679 | 0.017* | 0.037* | - | | | | |
| 8 ECG: Pre-T | 0.52 | 0.171 | 0.983 | 0.591 | 0.295 | 0.180 | 0.683 | - | | | |
| 9 ECG: Post-T | 0.21 | 0.207 | 0.132 | 0.939 | 0.034* | 0.291 | 0.218 | 0.10 | - | | |
| 10 NCG: Pre-T | 0.74 | 0.097 | 0.347 | 0.462 | 0.636 | 0.504 | 0.190 | 0.10 | 0.23 | - | |
| 11 NCG: Post-T | 0.39 | 0.020* | 0.745 | 0.723 | 0.872 | 0.024* | 0.024* | 0.62 | 0.07 | 0.08 | - |

* : p<0.05; ** : p<0.01

Table 4. Multiple Regression Analysis

| Variables | Variables | P value |
|-------------------------|--------------------------------|---------|
| Responsibility Pre-test | National Common Good Post-test | 0.5671 |
| SL experience Pre-test | National Common Good Post-test | 0.3682 |
| CSCA Post-test | Responsibility Post-test | 0.0020* |
| Responsibility Pre-test | Responsibility Post-test | 0.0093* |

* : p<0.05; ** : p<0.01

6. Discussion

Our research questions were: RQ 1: Does service learning have an impact on students' attitude toward community service? RQ 2: Does service learning have an impact on students' virtue of responsibility? RQ 3: Does service learning have an impact on students' sense of the common good, i.e. environmental protection, and awareness of national security?

Firstly, then does service learning have an impact on students' attitude toward community service? Despite the fact that it suffers lack of valid data (N=17), this study established, in the mean level, that those who had previous classroom service learning experience showed higher value than those who had not (N=31) by 0.385. This showed that the mean value increased after the period in which students experienced voluntary activities; however, this does not necessarily indicate that service learning caused the mean value of CSCA to increase. In other words, other factors could have caused the increase between Pre-test (July, 2017) and Post-tests (November, 2017 and January, 2018); it may, however, be possible that the service learning experience inside and outside the classroom was one of the major causes of the increment.

Secondly, does service learning have an impact on students' virtue of responsibility? In the mean level, among the students enrolled in the service learning program, the value of the post-test was higher than that of the pre-test by 2.771, meaning that their sense of responsibility had been enhanced between the pre- and post-tests. This does not mean, however, that service learning caused the enhancement of the value of responsibility. As the multiple regression tests results showed, there was a significant causal relationship between Responsibility pre- and post-tests. What does this mean? It means that the pre-test was the cause of the post-test. Again any factors could be at work in establishing this causal relationship.

Through the multiple regression test this study found that the value of CSCA post- test caused value of Responsibility post-test but this does not necessarily mean that service learning caused this increase in the value of Responsibility post-test, even if students took part in volunteer activities between the pre- and post-tests; nevertheless, as in the case with the relationship between service learning and students' attitude toward community service, it may be fair to conclude that

service learning was one of the major impacts on students' sense of responsibility.

Finally, does service learning have an impact on students' sense of common good, i.e. environmental protection, and awareness of national security? In regards to ECG, the data here did not show positive outcomes either in the mean level or in the significant difference level. Major reasons for this are that very few students are interested in ecology related volunteer activities, and that not many ecologies related activities are available.

NCG pre-test, on the other hand, seems to be the only variable to show a decrease, by 1.436 in the mean level. This phenomenon could be explained by considering the dates of the pre- test for those who had never experienced an SL class (December 12, 2017), and those of the pre-test (July 15, 2017) and the two post-tests for those who were then enrolled in the SL course (November 24, 2017 and January 26, 2018), in light of international affairs in Asia. From November 5 through 12, 2017, President Trump visited Japan, Korea, Philippines, and China and his visits increased the possibility of North Korean aggression against the US and Japan. A mood of impending crisis caused by North Korea's nuclear weapon production and attempted missile launch may have made Japanese youths think about national security, causing the mean of NCG to increase by 0.704. If this measure had included in its definition not only national defense but also national identity or any other elements, the results could have been different and might not have been influenced by international affairs.

7. Conclusion

To conclude, four problems of the current study need to be highlighted and improvement sought. Firstly, more post-test samples are needed. Data can probably be obtained from service learning classes and non-service learning classes at other universities to ameliorate the chronic problem of the small volume of data that impacts service learning research.

Secondly, since the time span for service learning courses is limited to one semester or two, this reduces the opportunity to observe possible changes in students' attitude. The research environment here could also be improved by obtaining additional appropriate data.

Thirdly, scales in the verbal anchors need to be improved. This study used a measure for Previous Classroom Service Learning Experience pre- and post-tests, yet the scales used in the verbal anchors for this measure was 1 to 2. This arrangement resulted in the value of post-test all being 2, because all those who had experienced service learning more than once chose 2 and therefore there was no variation. Results could have been enhanced had we used scales of 7 instead of scales of 2.

Fourthly, the methodology employed in this research was self-reporting and therefore we cannot deny the fact that the results presented above may be biased and lacking in objectivity. In facing what Kristján Kristjánsson calls "the profoundest problem," we should heed the suggestion in his *Aristotelian Character Education* about adopting "a proper instrument to measure virtue," involving eclectic, mixed methods including self-reports, other- reports and dilemma tests (Kristjánsson 2015, pp. 84). Given the nature of the object of the research, such mixed methods constitute our best option for the future.

References

- Aristotle (1925) *Nicomachean Ethics*. (trans: David Ross). Oxford: Oxford University Press.
- Bernacki, L., and Jaeger (2008). Exploring the impact of service-learning on moral development and moral orientation. *Michigan Journal of Community Service Learning*. Spring, 14 (2), pp. 5-15.
- Brandes, Kendra and Randall G. Kevin (2011). Service Learning and Civic Responsibility: Assessing Aggregate and Individual Level Change. *International Journal of Teaching and Learning in Higher Education*. Vol. 23, No. 1, pp. 20-29.
- Bringle, R. C., Phillips, M. A. and Hudson, M. (2004). The measure of service learning: Research scales to assess student experiences. Washington, D. C.: American Psychological Association. [Crossref](#)
- Coe, J. M., Best, A. M., Warren, J. J., McQuistan, M. R., Kolker, J. L. and Istringhausen, K. T. (2014).
- Kristján Kristjánsson (2015). *Aristotelian Character Education*, Routledge. [Crossref](#)
- Mercedes, Buendia Pardo and Berge, Erling. (2003). The Environment as a Common Good in the Time of Globalization: Its Conceptualization and Social Perception. ResearchGate, pp. 60-81.
- Morton, K. (1995) The irony of service: Charity, project, and social change in service-learning. *Michigan Journal of Community Service Learning*, 2, pp19-32.
- Ryan, K., Lerner, B., Nakayama, O., Bohlin, K., Mizuno, S., Horiuchi, K. (2011). *Happiness and Virtue Beyond East and West: Toward a New Global Responsibility*. Tuttle Publishing.
- Schwartz, S. H. (1977). Normative Influences on Altruism 1. *Advances in experimental social psychology*. 10, pp. 221-279. [Crossref](#)
- Service-learning Impact on Dental Students' Attitude toward Community Service.
- Shiarella A, McCarthy A, Tucker M. (2000). Development and construct validity of scores on the Community Service Attitudes Scale. *Educational and Psychological Measurement*. Apr.: 60 (2), pp. 286-300. [Crossref](#)
- Shumer, R. (2000). Science or story telling: How should we conduct and report service-learning research? [Special

issue]. *Michigan Journal of Community Service Learning*, pp. 76-83.

- Treanor, Brian (2010). Environmentalism and Public Virtue. *J Agric Environ Ethics*, 23, pp. 9-28. Tyron, E, Stoecker, R., Martin, A., Seblonka, K., Hilgrendorf, Nellis, N. (2008). The challenge of short term service-learning. *Service-learning. Michigan Journal of Community Service*. [Crossref](#)