EVIDENCING SERVICE-LEARNING@HMS


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Abstract

Service-learning (S-L), as a signature pedagogy in Ngee Ann Polytechnic, aims to achieve the graduate outcome of a “big hearted person”. Although various overseas efficacy studies in university settings reveal that S-L is effective, its effectiveness in the polytechnic context in Singapore has not yet been established. Hence, at the School of Humanities & Social Sciences (HMS), a pilot study involving the diplomas of Chinese Media & Communication (CMC), Chinese Studies (CHS) and Psychology Studies (PCS) was carried out in the October 2016 semester to examine changes in students’ civic responsibility in S-L modules.

The 169 participants consisted of (a) Year 1 CMC students taking “News Reporting & Feature Writing” who interacted with ex-offenders at a halfway house; (b) Year 2 CHS students taking “Modern Chinese Literature” who supported a literary association to promote Chinese through a Chinese reading programme for young children at the library; (c) Year 2 PCS students taking “Behaviour Modification & Intervention” who spent 10 hours observing and implementing behaviour management programme for children at an after-school care centre; (d) Year 1 PCS students taking “Managing Disabilities” who served at least 20 hours at centres, interacting with people with disabilities (PWDs) and implementing relevant programmes for them. All students completed a Civic Responsibility (CR) scale before and after their S-L experience.

The study found that the students’ civic responsibility positively changed after the S-L experience. Analysis suggested that the group that completed at least 20 hours of service, carried out direct service, and had ongoing and summative reflections showed a significant difference in Civic Responsibility score before and after the S-L experience as compared to the other three groups.

Future research will enhance its investigation through using the DEAL model for critical reflection (Ash & Clayton, 2009) to refine the design of S-L modules in the following semesters in HMS.

Keywords: Service-learning, civic responsibility, structured reflections

Introduction

Service-learning (S-L), which offers the greatest potential for fostering civic responsibility (Gottlieb & Robinson, 2006) is adopted as Ngee Ann Polytechnic's (NP) signature pedagogy. It aims to achieve the NP’s graduate outcome of a “big-hearted person”. While there are many efficacy studies on S-L in university settings overseas, its effectiveness in the polytechnic context has not yet been established. Hence, a pilot study involving four modules from three diplomas at the School of Humanities & Social Sciences (HMS) was carried out in the October 2016 semester to examine changes in civic responsibility after an S-L experience.

Literature Review

Service-learning is defined as a “course-based, credit-bearing educational experience in which students (a) participate in an organized activity that meets identified community needs and (b) reflect on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of civic responsibility” (Bringle & Hatcher, 1995: 112).

Research has shown that reflection is a critical component in an effective S-L experience (Bringle & Hatcher, 1999) and is associated with students experiencing greater civic knowledge and social responsibility (Celio et. al. 2011). Stronger positive effects were observed when reflections were structured and regular (e.g., reflection before, during and after service) (Mabry, 1998; van Goethem et al., 2014), when reflections take various forms, such as written journals, in-class discussion with instructors and discussion among students (Astin et al., 2000; Marby, 1998) as opposed to only one type of reflection (Hatcher, Bringle & Muthiah, 2004), and when the content of reflection activities matched the desired learning outcome (i.e., civic attitudes improved when they reflected on their civic attitudes during service) (Ash et al., 2005; van Goethem et al., 2014).

Despite these promising empirical evidence, the generalizability of S-L research findings is often limited because the programmes examined had small sample sizes and the programmatic features were very specific to the programme. Also, many published studies typically do not detail features of the S-L that brought about the
This research study, hence, attempts to shed light on elements of reflections and other factors that might impact civic responsibility outcome.

**Methods**

**Participants**: Participants were students taking one of the following S-L modules: (a) News Reporting & Feature Writing (Chinese Media & Communication - CMC), Modern Chinese Literature (Chinese Studies - CHS), Behaviour Modification & Intervention (Psychology Studies Year 2 - PCS2) and Managing Disabilities (Psychology Studies Year 1 - PCS1). They were invited to complete an online survey at the beginning and at the end of October 2016 semester. Completion of survey signified consent to participate.

Of the 217 students enrolled in the four modules, 169 (78% response rate) pre- and post-S-L survey responses were collected for analysis. There were 36 males (21%) and 133 females (79%). Participants’ responses are tagged to their student identification number to enable comparison of pre- and post-S-L responses. A summary of the four modules and their corresponding S-L experiences is presented in Table 1.

**Procedure**: Approval from Ngee Ann Polytechnic’s Institutional Review Board was obtained prior to the study. The lecturers gave a presentation on the research study to their students in the first two weeks of the semester and set aside time for them to complete the pre-S-L survey via Google form. Students were informed about the S-L nature of their modules and went through a standard set of prompts in their reflection activities before, during and after their S-L experiences. Reflections may have been facilitated by the lecturer in an in-class discussion or they may have appeared as prompts in assignment descriptors for graded written reflections. After completion of all S-L activities in their respective modules, the students completed the post-S-L survey online (Google form).

**Materials**: Reflection prompts that students used before, during and after their S-L experience were guided by Gibbs’ reflective cycle model and adapted from those in Austin Community College’s service-learning website (n.d.). Examples of the reflection prompts include: What concerns do you have about working with this community (before S-L phase)? What did you like and not like about the S-L experience? How will these influence your motivation to contribute to this community (during S-L phase)? What changes can you make to help/support this community (after S-L phase)? The lecturers chose their preferred reflection formats, be it written- and/or discussion-based at each of the three phases.

**Table 1: Summarised information of the modules and service-learning experiences**

<table>
<thead>
<tr>
<th></th>
<th>CMC News Reporting &amp; Feature Writing</th>
<th>CHS Modern Chinese Literature</th>
<th>PCS2 Behaviour Modification &amp; Intervention</th>
<th>PCS1 Managing Disabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of participants/ students:</td>
<td>43/48 (90%)</td>
<td>28/41 (68%)</td>
<td>56/75 (75%)</td>
<td>42/53 (79%)</td>
</tr>
<tr>
<td>Year</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Module type</td>
<td>Examination (40%) at the end of semester</td>
<td>Examination (40%) at the end of semester</td>
<td>Coursework – assessments over the semester</td>
<td>Coursework – assessments over the semester</td>
</tr>
<tr>
<td>Community partner</td>
<td>Drug rehab halfway house or students seek own contacts</td>
<td>Chinese Literary Association</td>
<td>Two after-school care centres under one organisation</td>
<td>Four centres comprising after-school care and day activity centres serving people with disabilities (e.g., dementia, autism, intellectual disability)</td>
</tr>
<tr>
<td>Type of service</td>
<td>Indirect: project raise awareness about the community but not benefit individually identified ex-offenders</td>
<td>Indirect: project promote Chinese language amongst the community but not benefit individually identified people</td>
<td>Direct: face-to-face service projects that directly impact children</td>
<td>Direct: face-to-face service projects that directly impact people with disabilities (PWD)</td>
</tr>
<tr>
<td>Duration of service</td>
<td>8 hrs of interaction with ex-offenders; twice over 1 month</td>
<td>20 hrs of preparation, training, mock trial</td>
<td>10 hrs over 5 weeks - observation interaction and programme implementation</td>
<td>20 hrs over 3 months - observation interaction and programme implementation</td>
</tr>
<tr>
<td>S-L activities</td>
<td>Interview &amp; written article (for potential publication)</td>
<td>Deliver 2 hours of Chinese reading programme at a public library; carry out interviews and write article (for publication)</td>
<td>Behaviour management programmes</td>
<td>Different programmes (activities) for different groups of PWD following needs-and-strengths analysis; Celebration exhibition at the end of semester</td>
</tr>
<tr>
<td>Form of reflections</td>
<td>In-class discussion (before &amp; after); small group discussion (during)</td>
<td>In-class discussion (before &amp; during), graded reflection-presentation includes civic awareness (after)</td>
<td>In-class discussion (before &amp; after); small group discussion and graded reflections on Instagram after each visit (during)</td>
<td>In-class discussion (before); graded reflective journal and essays (during); in-class discussion on civic responsibility; reflection extracts in exhibition (after)</td>
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</table>
**Research Design:** This study adopts a quasi-experimental, pre-S-L, post-S-L design to examine the change in civic responsibility after S-L with structured reflections.

**Instrument:** Civic responsibility is operationalised as five subscales, namely, students’ perceived civic awareness, civic action (intention and behaviour), sense of civic responsibility, and civic efficacy. The pre- and post-S-L surveys, each, contain 21 items; the items are randomly arranged, with five-point responses ranging from (1) *Strongly Disagree* to (5) *Strongly Agree*. The measure was adapted from relevant scale items in the literature (Aselage 2005; Denby, 2008; Furco, Muller & Ammon, 1998; Moley, Mercer, Ilustre, Miron & McFarland, 2002) and has high internal consistency, with Cronbach’s alpha (for the combined 21 items) for the current sample at 0.94. Table 2 shows example of a survey item in each subscale.

Table 2: Examples of survey items for each subscale

<table>
<thead>
<tr>
<th>Subscales</th>
<th>No. of Items</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civic awareness</td>
<td>6</td>
<td>I understand how social issues or policies can affect members in the community.</td>
</tr>
<tr>
<td>Civic responsibility</td>
<td>6</td>
<td>Helping other people is something that I am personally responsible for.</td>
</tr>
<tr>
<td>Civic action (intention)</td>
<td>4</td>
<td>Performing service in the community is something I plan to do regularly in the future.</td>
</tr>
<tr>
<td>Civic action (behaviour)</td>
<td>4</td>
<td>I participate in activities that help to improve the community.</td>
</tr>
<tr>
<td>Civic efficacy</td>
<td>1</td>
<td>I feel I have the ability to make a difference in the community.</td>
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**Research Questions**

This paper addresses two questions: Do S-L modules using the structured reflections framework enhance civic responsibility in students? What variables under what conditions lead to an enhanced Civic Responsibility score in students?

**Data Analysis:** The pre- and post-S-L Civic Responsibility scores were analysed using paired samples t-test for (a) all participants; (b) participants by module, to determine if the S-L with structured reflections resulted in the expected changes on students’ civic responsibility.

**Results**

Paired samples t-test indicated that overall, there was a significant difference in students’ Civic Responsibility score before and after the S-L experience. Analysis by individual modules reveals that the difference is significant for two groups (CHS Modern Chinese Literature and PCS1 Managing Disabilities), but not significant for two groups (CMC News Reporting & Feature Writing and PCS2 Behaviour Modification & Intervention).

Table 3: Means, standard deviations, and p-value for the four groups at pre-test and post-test

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>Pre-test Mean (SD)</th>
<th>Post-test Mean (SD)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>169</td>
<td>76.98 (11.16)</td>
<td>78.83 (13.00)</td>
<td>.02</td>
</tr>
<tr>
<td>CMC</td>
<td>43</td>
<td>78.60 (10.33)</td>
<td>76.40 (11.78)</td>
<td>.22</td>
</tr>
<tr>
<td>CHS</td>
<td>28</td>
<td>78.75 (10.27)</td>
<td>83.86 (12.32)</td>
<td>.02</td>
</tr>
<tr>
<td>PCS2</td>
<td>56</td>
<td>76.36 (11.74)</td>
<td>76.55 (14.43)</td>
<td>.86</td>
</tr>
<tr>
<td>PCS1</td>
<td>42</td>
<td>74.98 (11.69)</td>
<td>81.02 (11.63)</td>
<td>.00</td>
</tr>
</tbody>
</table>

Further analysis revealed that difference in pre- and post-S-L scores was significant for all the subscales for PCS1 group (p < .05) while they were significant for two subscales - civic awareness and civic action (behaviour) - for CHS group. (See Table 4)

Table 4: Means, standard deviations, and p-value for each subscale for CHS and PCS1 students

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Pre-S-L Mean (SD)</th>
<th>Post-S-L Mean (SD)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civic awareness</td>
<td>22.57 (2.97)</td>
<td>24.36 (3.25)</td>
<td>.01</td>
</tr>
<tr>
<td>Civic responsibility</td>
<td>23.14 (3.41)</td>
<td>24.46 (4.24)</td>
<td>.07</td>
</tr>
<tr>
<td>Civic action (intention)</td>
<td>15.18 (2.07)</td>
<td>15.89 (2.53)</td>
<td>.13</td>
</tr>
<tr>
<td>Civic action (behaviour)</td>
<td>14.14 (2.73)</td>
<td>15.21 (2.75)</td>
<td>.03</td>
</tr>
<tr>
<td>Civic efficacy</td>
<td>3.71 (0.76)</td>
<td>3.93 (0.77)</td>
<td>.16</td>
</tr>
<tr>
<td></td>
<td>21.69 (3.40)</td>
<td>23.57 (3.12)</td>
<td>.00</td>
</tr>
<tr>
<td></td>
<td>22.29 (3.86)</td>
<td>23.98 (4.11)</td>
<td>.00</td>
</tr>
<tr>
<td></td>
<td>14.60 (2.85)</td>
<td>15.31 (2.68)</td>
<td>.04</td>
</tr>
<tr>
<td></td>
<td>13.05 (2.79)</td>
<td>14.26 (2.71)</td>
<td>.00</td>
</tr>
<tr>
<td></td>
<td>3.36 (0.88)</td>
<td>3.90 (0.79)</td>
<td>.00</td>
</tr>
</tbody>
</table>
Discussion

The results suggest that the PCS1 group that completed at least 20 hours of service, carried out direct service, had regular structured reflections, including graded ongoing and summative reflections and celebrated the efforts of students (and community partners) with an exhibition of their S-L projects showed a stronger positive outcome than the other three groups. The positive outcome for the PCS1 group is consistent with the study by Hatcher et al. (2004) which reported that students who did both ongoing and summative reflection demonstrated higher gains in civic attitudes.

Factors influencing level of civic responsibility in S-L modules

(1) Varying levels of facilitation of reflection

It appears that the structured reflections framework used by students in all the four modules did not appear to have enhanced students’ civic responsibility to the same extent. As Furco (2008) has argued, due to the complex nature of S-L (e.g., interaction of students’ characteristics, service activities, curricular content and learning outcomes), research results can be influenced by highly idiosyncratic and situational factors. One such factor could be individual differences in how the group reflections were facilitated. For example, lecturers, with their different personalities, experiences and skills, are likely to facilitate the discussion differently.

Lecturers might also build on the prompts in the structured reflection framework by making explicit the requirement to discuss civic attitude in their reflection assignments. For example, the CHS students were asked to present on their civic awareness and if they felt more responsible (in promoting the Chinese language) for the community after the S-L; PCS1 students were asked to give their opinion on how the S-L experience had raised or not raised their civic awareness and responsibility towards persons with disabilities. The positive outcomes for the CHS and PCS1 groups are consistent with findings in van Goethem et al.’s (2014) meta-analytic study which revealed stronger positive effects when reflection activities were matched to the desired learning outcome.

(2) Multiple opportunities & ways to reflect

Hatcher et al. (2004) proposed that a variety of reflection activities through which students can practise reflection might be more advantageous than using only one reflection method. This might partly explain our findings that shows no significant difference in the Civic Responsibility score for the CMC group which used discussion as the only form of reflection activity. This finding is aligned with van Goethem et al.’s study (2004) which found no positive effect for discussion as a reflection form.

The lecturers might also have conducted additional reflections beyond the three phases in the framework. For example, the students in the PCS1 group completed more than three reflection activities in total, including both ongoing reflections (reflection journal and essay) and summative reflection (exhibition presentation).

(3) Time spent on service-learning and students’ choice

Other characteristics of effective S-L might account for the findings in this study as well. For example, Mabry (1998) found that S-L had a positive outcome on the values and attitudes when students contributed at least 15-20 hours of service. This seems to be the case in our study, with the two groups - PCS1 and CHS - showing significant increase in Civic Responsibility scores after S-L when students completed 20 hours of direct and indirect service hours respectively. Support for greater duration of service may also be gleaned anecdotally. The PCS2 (Behaviour Modification & Intervention) group of students gave feedback that the duration of service in their Year 2 S-L module was too brief. Additionally, they reported that they found the children at the after-school care centres rowdy and unlikeable; they would not have chosen to work with them. This could also account for the group’s limited civic responsibility outcome which is in line with studies that found students’ choice to be associated with increased willingness to volunteer (Celio et al., 2011; Taylor et al., 2015).

(4) Opportunity to publicly share experiences

Organising a celebration at the end of the S-L gave students opportunities to share about their experiences and projects. Attitude-behaviour consistency (Fishbein & Ajzen, 1975) may be at work here for the PCS1 students as they displayed favourable attitudes when they responded to queries by visitors (which included community partners) about their S-L experiences at the celebration exhibition. The positive attitudes which were based on their past behaviours (having completed 20 hours of service) and personal experiences could, in turn, reinforce their positive attitudes towards the community and civic responsibility, thereby, explaining the positive outcome. Indeed, Wade (1997) noted that celebrations allowed students to see that their service efforts are valued by the school and community; through celebrations, students can acknowledge that they really did make a difference, and renewed their enthusiasm and commitment to further service.

Addressing challenges in service-learning

Having to consider different aspects of S-L when planning S-L modules can be challenging, with lecturers having to ensure alignment of community partners’ goals to module learning objectives, meaningful integration of classroom and community learning, designing reflection activities, preparing students for community engagement, managing community and campus calendar issue (e.g., it was not possible to include certain community partners because they are closed during a large part of December when the S-L modules are conducted in the October semester), and managing logistical issues (e.g., transportation, scheduling a block of time for students to do S-L within their tight timetable).

In addition, one key challenge lecturers face in creating more varied forms of reflections for students is time and curricular assessment issue. With the examination taking up forty percent of the assessment
components, and the pressure to cover course contents, the lecturer is constrained by the variety of reflections that could be assigned to students (CMC module was an examinable module). The lack of time for students to reflect on their S-L experience reduces the impact these activities have on students’ sense of civic responsibility.

Next steps: Ways to enhance S-L modules

(1) Lecturers’ own positive attitude to learning
First and foremost, lecturers ought to adopt a positive attitude of learning: dare to try, learn from ‘failure’ and inch closer to the principles of effective S-L experiences at each attempt. Indeed, for the first author, many lessons were learnt from the first attempt at SL in 2015. Through an iterative process of implementing the S-L module, reflecting on the S-L programme, continual consultation of the literature and improving the programme has yielded results in this study.

(2) Meaningful Service
Service must be meaningful, match the learning goals of the module, and the service activities must match the skill level of the students (Taylor et al., 2015). These can be achieved through thoughtful consideration of suitable community partners, setting aside time for reaching out to the partners, soliciting their support as co-educators, and managing their expectations regarding students’ projects.

(3) Increased Time for Reflection
Time for reflection needs to be intentional (Weiler et al., 2013). Regular reflections were incorporated into tutorial sessions for PCS1; feedback on their reflections were given through consultation sessions related to various assignments. A benefit of the module being coursework-based was the flexibility in weaving different forms of reflection activities into the course contents.

(4) Clear guidance on how to reflect
If reflection is a learned skill, as Ash and Clayton (2004) had suggested, the process of writing in accordance to the rubrics of a reflective assignment and receiving feedback on the reflective assignment could benefit students immensely through greater opportunities to interpret their service experiences more thoroughly and to internalise the lessons learned (van Goethem et al., 2013).

Further review of literature brings forth a reflection tool that can potentially enrich students’ learning and guide them towards higher-quality reflections as current structured reflection framework may not be so rigorous. The DEAL model for critical reflections (Ash & Clayton, 2009) consists of three sequential steps:
1. Description of experiences in an objective and detailed manner;
2. Examination of those experiences in light of specific learning goals or objectives; and
3. Articulation of Learning, including goals for future action that can then be taken forward into the next experience for improved practice and further refinement of learning (p.41). It consists of four prompts: (a) What did I learn? (b) How did I learn it? (c) Why does it matter? and (d) What will I do in light of it?

The prompts in DEAL are tied directly to hierarchical learning objectives (Bloom-based) and could support students explicitly in developing reasoning abilities and to assess the quality of their reasoning (p.43).

(5) Integration of civic responsibility into curriculum
Civic responsibility needs to be intentionally integrated into the academic curriculum for its potential to be realised (Gottlieb & Robinson, 2006). In the case of PCS1, specific reflection prompts relating to civic engagement and civic responsibility using aspects of DEAL model were incorporated in written reflective assignment. Although not all students followed the steps and used prompts in their work, those who did were able to demonstrate deeper analysis of their S-L experiences as shown in this extract from a student’s reflective essay:

I had thought that interacting with people with disabilities (PWD) was a chore. Through service-learning, I learnt that I am able to work well with them. I learnt this when my group mates would call me to engage a client with Down syndrome to play the game because he would not get up if not prompted. This learning matters because now I am more willing to engage in community-based projects, knowing that I have the heart for it despite how tiring it can be. In light of this, I will share my S-L experience with others to encourage them to give it a try, because they will definitely grow as an individual through volunteering to work with PWD.

Explicit discussion on S-L and its potential to develop civic responsibility was also held for PCS 1 at the end of the semester. Students were asked to distinguish civic awareness, civic engagement, and civic responsibility. Their S-L experiences were discussed in relation to services and policies associated with people with disabilities and their caregivers in Singapore. Such intentionality appears to effect an increased sense of civic responsibility towards persons with disabilities in the students.

Limitations of study
The current study, based on the survey results alone, is not able to attribute the improvement in Civic Responsibility score solely to structured reflections because it may be due to other differences among the modules. Also, measuring students’ civic responsibility through self-reported measures has been criticised as possibly measuring student satisfaction rather than student learning (Eyler, 2000). Although self-reported measure is used in this study, other forms of evidence (e.g., focused group discussions, students’ written reflections) had also been obtained (though yet to be analysed to complement the findings here). Future work
would be strengthened by triangulating the results with independent assessments of student products. Documenting changes in students’ knowledge and skills, attitudes and behaviours towards greater involvement in volunteering activities, or active participation in the community through a longitudinal study would provide credible indicators of students having gained civic responsibility.

Conclusions

The results of this study suggest that multiple variables such as an extended duration of service, direct service, meaningful service and opportunity for students to articulate learning from their experiences through celebration appear to be related to civic responsibility outcome; structured and regular reflections in a S-L module may not be enough to change students’ sense of civic responsibility. There has to be intentionality in matching reflection to the outcome category (i.e., civic responsibility). Additionally, developmental reflection prompts in the DEAL model for critical reflection hold the promise to enhance students’ quality of reasoning and reflections and this will be adopted in the next phase of the study.

Acknowledgements

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References


