

How Service-Learning promotes intergenerational harmony: Case study of a Service-Learning project in a science course

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1. Introduction

The Office of Service-Learning, Lingnan University partnered with the Discovery and Education Department, Ocean Park (a theme park in Hong Kong) to develop a Service-Learning project. Along with the traditional goals of Service-Learning (enhance undergraduate student learning, provide useful service for community partner), we added an additional goal of promoting intergenerational harmony. Intergenerational Service-Learning projects typically set undergraduate students as the service providers and elders as the service recipients, but we modify this approach by having undergraduate students and elders work together to be service providers. Together, university undergraduate students and elders attended lectures of a science course¹, and applied this knowledge to provide educational services to Ocean Park visitors while in intergenerational teams. The educational services (narration services at the exhibits and interactive games) aimed to fulfil Ocean Park's goal of providing a richer visitor experience, as well as promote the message of marine conservation. This study provides information on how including elders as service providers in a Service-Learning project can facilitate reciprocal learning between age groups and promote intergenerational harmony.

2. Theoretical framework/literature review

Intergenerational harmony, where different age groups understand and support each other, can be achieved when there is open communication and reciprocal learning between older and younger generations (Storm & Storm, 2011). It has been shown that intergenerational communication and reciprocal learning facilitate the transmission of traditional values and promote the sustainable development of the society (Wangyal, 2001). However, studies have identified roadblocks from both sets of participants—students often have strong stereotypes of the elderly (Pecchioni et al., 2004) and the elderly overestimate their willingness to talk with and learn from students (Beckert, 2007). These mindsets negatively affect the intergenerational communication between

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students and elders. Decreased intergenerational communication affect the reciprocal learning between older and younger generations (Storm & Storm, 2011).

Service-Learning is one educational method to engage students into the designed service to provide meaningful service to society and enhance learning by reflecting on the personal experience and classroom discussion (Westacott & Hegeman, 1996). Intergenerational Service-Learning, including participants of different age groups, has been shown to connect elders and undergraduate students and contribute to meaningful interactions (Hegeman et al., 2002). The goal is for both elders and undergraduate students to benefit educationally and socially, with the hope to change students' stereotypical views of elders and elders' unwillingness to learn from students (Gutheil et al., 2006). To be successful, intergenerational Service-Learning should include organized, ongoing interactions between older and younger generation that are mutually valuable (Newman & Smith, 1997). Research has shown that increasing communication between students and elders can promote reciprocal learning (Hwang et al., 2014). Typically, research on intergenerational Service-Learning projects set elders as the service recipients and students as the service providers. This research typically focuses on student outcomes rather than that of the elders. In our research, we change the approach—both elders and students work together as service providers. The outcomes and effects on both students and elders are evaluated.

In this study, we evaluate whether an intergenerational Service-Learning project, where both elders and undergraduates work together as service providers, can promote intergenerational harmony. We evaluate the effects on both elderly and undergraduate students through a questionnaire adopting a paradigm for intergenerational learning (Strom & Strom, 2011). Our research focuses on whether elders and undergraduate students cooperating on a Service-Learning project facilitates reciprocal learning and open communication as to contribute to intergenerational harmony.

3. Methods

This intergenerational Service-Learning project was conducted over two periods: summer semester 2018 and regular semester of the 2018–2019 academic year. The service provided was educational service for visitors of Ocean Park (narration services at the exhibits and interactive games). Participants were placed in intergenerational groups: 1–2 elderly paired with 2–4 undergraduate students. For the summer semester, there were 12 participants (6 undergraduate students and 6 elders) and for the regular semester, there were 45 participants (35 undergraduate students and 10 elders). Lingnan University requires a Service-Learning project to cover 30 hours, of which we divided into four major components. First, Ocean Park conducted a 7-hour training session. In this training, participants learned about Ocean Park, the educational service, and customer service techniques. Second, each group conducted a total of 20 hours of service at Ocean Park within an 8-week period. This timeframe was dictated by the academic calendar. Third, a 1-hour consultation session was conducted in the middle of the service period to discuss experiences and ways to improve. Upon completion of their service, all participants were required to submit a reflective essay detailing their experience. The last component was a 2-hour reflection session used as a wrap-up to the service project.

We used a mixed method for collecting data, combining quantitative and qualitative approaches. For the quantitative approach, we used pre- and post-test questionnaires to evaluate participant

expectation before and after participating in the service. The pre-test questionnaires consisted of 5 questions on a 5-point Likert scale and one open-ended question, while the post-test consisted of 13 questions on a 5-point Likert scale and one open-ended question. A total of 40 participants (66% response rate) completed the pre-test questionnaire, while 45 participants (75% response rate) completed the post-test questionnaire. For the qualitative approach, four events were used to evaluate the effect of Service-Learning project on elders and undergraduate students: observation of performance, the midterm consultation, final reflection session, and reflective essay. For the observation of performance, we conducted two on site visits at Ocean Park to monitor the performance and interaction of five groups. A total of 44 reflection essay were collected among both elders and undergraduate students. Selected quotes have been taken from the pre-test, post-test, and reflective essay to characterize the thinking of elders and undergraduate students. These quotes have been edited for clarity while preserving the meaning. Some of the elders wrote their reflective essays in Chinese, and these excerpts were translated into English.

4. Results

Participant characteristics

The mean age of the elders was 63.4 years. Most (77%) of the elderly were retired. For the undergraduate students, the mean age was 20.4 years. Most (75%) of them did not have previous service-learning experience and most (93%) were not living with their grandparents.

Expectation before the service-learning project

For expectations towards intergenerational Service-Learning, two typical responses were: “To let me understand more about undergraduate students’ thinking, at the same time to share my own experience with them” and “Exchange different ideas between undergraduate students and elders during the service learning project”.

For undergraduate students, typical replies were to “Deal with each other peacefully”, “I hope to communicate with the elders and other undergraduate students to gain different kinds of insights and experience” and “Have fun and communicate with them comfortably”.

Changing stereotypes towards elderly

One of the questions on the pre- and post-test asked to what extent the elders/students felt comfortable when speaking with each other (Table 1). For the elderly, the score increased from an average of 3.9 to 4.67 (maximum 5). For undergraduate students, the score increased from 4.23 to 4.36. In the reflective essay, many undergraduate students described their change in perceptions towards elders. We believe this change was in part due to both elders and undergraduate students working together as the service provider. To be successful, teamwork was required between undergraduate students and elders. Through this cooperation, undergraduate students changed their stereotypes of the elderly. The following statements by the undergraduate students illustrate these findings.

In the beginning, we thought that he (elderly) was not capable of doing many things because of his age. However, he is very smart and tough. Not only did he approach visitors actively, but also spoke English fluently and interactively. I think he was the team member who performed the best during our service.

I thought that due to a generation gap, we would not communicate well with each other. However after the Service-Learning I feel comfortable interacting with the elderly. Her (elderly) heart and thoughts are similar to us so we had many common topics discuss.

Working with the elderly didn't seem as different as I expected. I initially thought that it would be difficult to get along with elderly people due to the generation gap, since every generation has different values and beliefs that will show in their attitudes and behavior patterns. However, working with elderly people was one of the most wonderful and memorable experiences among the Service-Learning project.

The Service-Learning project was worth doing because I learned a lot and created strong bonds with my team members. I did not expect this. For instance, the bonding between us and the elderly. I never thought I could be friends with an elderly because we have totally different lifestyles and ideas. If 3 years is considered a generation gap, then we have so many gaps between us. However, we did become friends after this program.

For me, this is a valuable experience. It changed my view towards elderly people and gave me a new understanding of them. They (elders) are different from the elderly I saw in assist care homes, who have difficulty walking and slow response. The elders that I attended class with were active, talkative, and not shy to ask questions.

Increased intergenerational communication

One question in the pre- and post-test asked to what extent the elders/students gained understanding for the values that guide the behaviour of different generations (Table 1). The scores of both elders and undergraduate students increased from the pre- to post-test. For elders, the score increased from 3.9 to 4.44, while for undergraduate students, the score increased from 3.95 to 4.21. For a question on knowing how the other generation interprets events, the score of elders increased from 3.72 to 4.11, while for undergraduate students, the score increased from 3.71 to 4.29 (Table 1). Most of participants agreed that the arrangement of students paired with elderly increase the interaction with the other generation. The average score was 4.33 for elderly and 4.46 for undergraduate students (Table 2).

Through our performance observation, we saw that the undergraduate students and elders communicated to successfully complete their jobs. We provide two examples. First, when running the interactive game, groups would communicate to divide labour—who is responsible for managing the queue and who is responsible for playing games with visitors. Second, teams had to coordinate to communicate with visitors, as visitors spoke a variety of languages (primarily Cantonese, Mandarin, and English). Teams drew on the language strengths of their members, assigning different teammates to communicate with different visitors. For some undergraduate students who were not strong in Cantonese (*e.g.*, non-Chinese Hong Kong citizens or mainland Chinese students), they would ask elders for help. Elders and undergraduate students also highlighted this intergenerational communication in their reflective journals. The following statements by the undergraduate students and elders illustrate these findings.

It was a great experience for me to work with the elderly as a classmate. This experience is different from working classmates of the same age. She (elderly) always shares her own life experience with us and talks about related issues about her volunteer work in her daily life.

Our elder member gave us a lot of support and shared his own experiences with us. In particular, he would share his opinions on working as a team and lead us methodically.

She (elderly) gave a lot of advice to us during the whole service. For example, during the narration service, she taught us a better way to approach the tourists. She always gave a lot of effort to engage the visitors. Although she did not join our group's last service day, she still provided advice on how to organize and improve the booth game in the Shark Mystique, which helped us a lot.

At the lunchtime, we exchanged a lot of knowledge about each other. He (elderly) shared about his job, which is responding to the network design in MTR, and gave me a lot of advice on my future work. I shared with him the current situation of my university life and the academic system.

There were surely times when we differed in work attitudes, but we handled it well and found the middle ground to every situation (though there weren't many situations). For example, there were different opinions in leading the way to several locations, but we handled it by cooperating and sorted the matters within seconds.

Service at OP (Ocean Park) provides a very good opportunity for undergraduate student and elderly to communicate because we stayed with each other for the whole day. We had lunch together; we stayed together for the break; we shared our past stories; we talked about their future. I (elderly) gave them some suggestions and we discussed my suggestions.

Increased willingness for reciprocal learning

Three questions in the questionnaires related to reciprocal learning. First, scores increased for all participants when comparing pre- and post-test results for a question on gaining insight about young/old world (Table 1). For elders, the score increased from 3.81 to 4.44, while for the undergraduate students, the score increased from 3.57 to 4.25. Second, both elders and undergraduate students scored highly on a post-test question asking whether the mixed groups encouraged them to learn from the other age group (Table 2). The average score was 4.44 for elders, and 4.4 for undergraduate students. Third, when asked whether they gained support from each other during the service, both undergraduate students (4.78) and elders (4.43) scored highly (Table 2). In the reflective essay of both undergraduate students and elders, one reoccurring idea was that different age groups had different strengths: undergraduate students could relate to younger visitors as they were familiar with popular trends, while elders were able to calmly handle emergency issues. These differences in strengths facilitated reciprocal learning. The following statements by the undergraduate students and elders illustrate these findings.

We even talked to him (elderly) about the relationship between two different generations, which is the relationship between parents and children. From the perspective of different generations, we learn a lot about what we don't know from the other perspective.

After working with the elderly for several weeks, I thought that they created a positive learning environment because they were more eager to learn when compared with our undergraduate students. The elder students had a higher level of curiosity and motivation to learn. For example, the professor may ask questions during class and some undergraduates students did not want to answer the questions. However, the elderly participated in class more than the undergraduate students. I was motivated by their passion for learning and I wanted to participate more in class. They showed a good attitude of lifelong learning, which is the ongoing and self-motivated pursuit of knowledge. This attitude is very important for our undergraduate students because we sometimes lose sight of why we are studying.

Working with the elder students taught us things that were not included in textbooks. For example, in Ocean Park, some impatient children were waiting near our game booth, and undergraduates students did not know how to deal with this situation. However, our elder student helped us to manage the queues and comfort the children...As a student, we did not have many chances to communicate with children. However, the elder student had experience working in many different situations and had stronger communication skills than the undergraduate students who did not have much work experience.

They (elders) have much more life experience than us and they also have a passion for studying. When I talked with elder people I think that I should be like them when I am old. I learned a lot from the discussion and their attitude.

In preparing for the narration, He (elder) studied the materials very hard. It helped our work at Ocean Park—we could immediately ask him for help when we forgot some information about sea animals.

Building a positive relationship between elders and university students

In the post-test, both undergraduate students and elders strongly agreed that the arrangement of mixed groups built positive relationships between themselves and the other generation. The average score for elders was 4.44, while the average score for undergraduate students was 4.5 (Table 2). For the post-test question on whether a cooperative Service-Learning project can promote intergenerational harmony, the average scores were 4.55 (elders) and 4.36 (undergraduate students) (Table 2). Writing in reflective essays echo these beliefs.

If there is another chance for me to work with elders again, I am willing to do so.

It was a lucky chance that we (students) could cooperate with the elders during the service.

In my opinion, having the elderly around is good.

Learning together with different generations was a wonderful experience because it helped build respect and positive engagement.

This part (intergenerational cooperation) is my favourite part. I am so thankful that we had the opportunity to learn and work with the elderly. The generation gap almost didn't exist between us, thanks to everyone's cooperation. We stayed like a family, we took care of them and they took care of us.

I like such teamwork with both elder and the university students.

To me, I have nice impressions and experiences in a harmonious relationship with my teammates.

Table 1 Results from the common questions across the pre- and post-test. All scores are averages of respondents in their respective groups.

Question	Elderly		Undergraduate Students	
	Pre-test	Post-test	Pre-test	Post-test
I felt comfortable when speaking with students/elders.	3.9	4.67	4.23	4.36
I got to know the value the guide the behaviour of students/elders.	3.9	4.44	3.72	3.81
I got to know how other generations interpret events.	3.72	4.11	3.71	4.29
I got to recognise students/elders' vision of the future.	3.81	4.11	3.71	4.14
I gained insight about the young/old world.	3.81	4.44	3.57	4.25

Table 2 Results from questions only in the post-test. All scores are averages of respondents in their respective groups.

Question	Elderly	Undergraduate Students
The arrangement of students paired with elderly encourage me to learn from students/elders.	4.44	4.39
The arrangement of students paired with elderly increase the interaction with students/elders.	4.33	4.46
The arrangement of students paired with elderly build positive relationship between you and students/elders.	4.67	4.5
I think my relationship with students/elders is closer.	4.44	4.46
I am happy to work with students/elders as a group.	4.78	4.61
I gained support from students/elders during the service.	4.78	4.43
To what extend do you agree that the Service-Learning project can promote intergenerational harmony?	4.55	4.36

In summary, the result showed that the expectation from elders and undergraduate students are different. Elders were generally willing to cooperate with undergraduate students, while students were worried about cooperating with elders. However, undergraduate students changed their thinking throughout the engagement between elders and undergraduate students in the Service-Learning project. Undergraduate students discarded this negative stereotypes towards the elders. In the Service-Learning project, participants needed to work together and increase communication between each other to be successful. Hence, reciprocal learning was facilitated through this service work. Most students and elders agreed that this Service-Learning project helped them build positive relationships with the other group.

5. Discussion

Different goals and expectations influence participant perception

The results of the pre-test of participants show that elders and undergraduate students have different expectations towards the Service-Learning project. Elders were generally willing to work with undergraduate students, while undergraduate students were worried about cooperating with elders. This may have been due to the setup of the course. Elders joined the science-related course with the acknowledgement about the details of Service-Learning project, knowing in advance that they must cooperate with undergraduate students to conduct a Service-Learning project in Ocean Park. Elders who were not interested in working with undergraduate students likely did not apply or withdrew from the course. Therefore, to a certain extent, these elders were a self-selecting group looking forward to cooperating with undergraduate students. Conversely, the undergraduate students did not know about the details of the Service-Learning project in advance. Many undergraduate students registered for the course to meet Lingnan University graduation requirements (taking one science-related course, taking one Service-Learning course). Due to the requirement of passing this course to graduate, we believe this caused undergraduate students to worry when they knew they must cooperate with elders. Despite this worry, undergraduate students articulated in their pre-test responses that that they were willing to cooperate with elders. Based on the results of post-test, undergraduate students felt a positive change in their view of the elderly. We believe this change was facilitated primarily by the structure of our Service-Learning project—the role of being a service provider was the same for the undergraduate students and elders. The responsibilities and expectations of each team member was the same, regardless of age. To be successful, team members needed to effectively communicate and draw on each others' strengths.

Intergenerational Service-Learning project promotes reciprocal learning and open communication among elders and university students

In the reflective essays, undergraduate students and elders both detailed problems they encountered and how they were resolved. For example, two common issues were the division of labour between teammates and strategies to attract Ocean Park visitors to participate in interactive games. To solve these problems, teams had to discuss, share opinions, and decide on a solution. As all participants (undergraduate students and elders alike) were doing this service for the first time, nobody was considered the expert, and there were no preconceived ideas on who's opinion was the best. We believe this situation encouraged both undergraduate students and elders to openly communicate and respect the opinions of all team members.

There was one particular case where undergraduate students deferred to elders, which was handling emergency issues (e.g., there was an altercation between Hong Kong and Mainland visitors over the queuing up issue). In this case, undergraduate students expressed feelings of anxiousness and helplessness, and depended on the maturity and experience of elders to help solve this problem. We believe this situation provoked undergraduate students' open-mindedness and respect towards elders. Elders acted as a model for which undergraduate students were able to learn from and follow; while the elderly calmly solved an emergency issue, undergraduate students were able to develop a framework to follow when dealing with similar problems in the future.

In addition to fuller life experiences of the elderly, undergraduate students also learned from observing the attitude of the elderly towards the Service-Learning project. Elders took the responsibility of the job very seriously, preparing and studying the materials before going to Ocean Park. Many undergraduate students discovered that the elders were more familiar with the information about the different animals on display, which pushed undergraduate students to work harder. We believe there are two contributing factors for elders being better prepared—time and sense of responsibility. First, elders have more time to devote to this Service-Learning project than undergraduate students. As most of the elders are retired, they have more time to spend on studying the materials provided by Ocean Park. On the other hand, undergraduate students are taking 4–5 concurrent courses, and must allot study time accordingly. Secondly, the elderly had a greater sense of responsibility towards this service. Our impression was that the elderly viewed this service like a job, and it was their responsibility to be prepared and perform well. We believe this was influenced by the fact that this course was voluntary for elders and a requirement for undergraduate students. Regardless of the reason for elders being better prepared, undergraduate students learned from observing the elders. Once they saw the serious approach that the elders took, undergraduate students raised the standard and expectation for themselves.

Mutual learning through personal stories

One service day at Ocean Park lasted for seven hours. Throughout the day, teams were given breaks for rest (30 minutes, twice daily) and lunch (one hour, once daily). Teams often stayed together during their breaks, providing opportunities to talk in-depth about a variety of topics and build mutual understanding. Two common topics amongst the teams was about the future and of popular trends. For discussions about the future, the undergraduate students would share their dreams and visions, while the elderly would provide advice based on their life experiences. For popular trends, the elderly would ask undergraduate students to share this information, with the goal of improving communication with their children or grandchildren. Some elderly participants noted that these discussions during service were much more in-depth than the discussion in class. This is likely because in-class discussions focus on course material which are chosen by the professor, and due to lack of time or disinterest, discussions would not continue after the class period was done. While at Ocean Park, the situation was different. During rest and lunch breaks (total two hours each day), teams were free to discuss any topic, which tended to focus on common interests and personal experiences. The end result was a deeper understanding of each team member as a person, instead of a category.

6. Conclusions and contributions to theory and practice

In this study, we discovered that intergenerational Service-Learning projects provide an opportunity for open communication and reciprocal learning, in turn promoting intergenerational harmony. In most studies on intergenerational harmony, the elders were service recipients, while undergraduate students were service providers. In this Service-Learning project, both elders and students were participating in the same role as the service provider. In this situation, undergraduate students may not create a sense of priority over the elders, which may be the case when undergraduate students provide service to the elders. However, when they both work together as a teammates, both elders and undergraduate students are encouraged to open their minded and cooperate with each other to carry out the Service-Learning project.

Through engaging in a Service-Learning project in the same role (both as service providers) with a common goal, undergraduate students and elders experienced a greater understanding of each other on a personal level. To be successful as a team, members must develop bonds between team members and be committed to the same goal. Participants discovered that each team member had their own strengths and weaknesses, and that cooperation could create a team where the whole is greater than the sum of its parts. Such a Service-Learning project created an environment where participants were willing to learn from each other, regardless of age. This study provides evidence that intergenerational Service-Learning projects, where both undergraduate students and elders are service providers, are able to promote intergenerational harmony.

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