Community Service Learning: Effects on Student Nurses’ Clinical and Cultural Proficiency Skills

M. Danet Lapiz-Bluhm & Tess Woosley
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Abstract

Introduction: Nurses serve an increasingly diverse population. There is a need for more culturally proficient nurses who are educationally prepared to care for these populations, especially the underserved. Community service learning (CSL) can be used as an adjunctive approach to train nursing students to care for vulnerable minority populations.

Objectives: This study identified motivators for CSL participation. Further, it examined the effects of CSL participation on students’ self-rating of their clinical and cultural skills.

Methods: Junior and senior Bachelor of Science in Nursing (BSN) students (N=32) who volunteered to conduct the health screenings at two different festivals in 2012, the Asian Festival in January (n=18) and the Texas Folklife Festival in June (n=14), were surveyed to identify motivators for CSL participation. They were also asked to provide a self-rating of their health screening skills (i.e., health history and assessment, blood pressure, blood glucose and blood cholesterol screenings) and transcultural competencies (i.e., knowledge, appreciation, understanding, communication and community service) before and after the event.

Results: Professional and personal improvements were identified as main motivators for students to volunteer. Statistical analysis of data showed that short-term participation of CSL activities significantly improves the clinical skills and transcultural competencies of student volunteers. This effect was highly significant for first-timer volunteers compared to experienced volunteers.

Conclusions: Improvements in clinical skills and cultural competencies among students support CSL in nursing education, especially short-term extracurricular volunteer activities geared for underserved populations. Allowing students the opportunity to interact with underserved populations during their education may stimulate their interest to continue providing care to these communities.

Keywords: community service learning, clinical skills, cultural proficiency
Introduction

Nurses in the United States (US) serve an increasingly diverse patient population. The US Census Bureau (United States Census, 2011) reported that while the non-Hispanic white population is numerically and proportionally the largest major race and ethnic group in the United States, minority populations, such as Hispanics and Asians, have grown considerably. Between 2000 and 2010, the Hispanic population grew by 43%, growing from 35.3 million in 2000 to 50.5 million in 2010. A similar 43% increase was seen among the Asian population. The Asian population increased from 10.2 million in 2000 to 14.7 million in 2010. The US Census Bureau also projects there will be a significant increase of these populations in 2050. Unfortunately, substantial racial and ethnic health disparities have been identified among these populations (United States Census, 2011). The National Institute of Health (NIH) reported that racial and ethnic minority groups in the US experience poorer health compared to the overall population (NIH, 2011). The disparities are believed to be the result of a complex interaction between factors such as biology and environment, as well as specific behaviors that could not be meaningfully addressed due to shortage of racial and ethnic minority health professionals, discrimination, and inequities of income, education, and access to healthcare (NIH, 2011). The shortage of nurses to help address these health disparities is a major national health issue (Morgan, and Lynn, 2009; Zahner and Henriques, 2012). There is a need for more culturally-proficient nurses who are educationally-prepared to care for these underserved populations (Zahner and Henriques, 2012). The American Association of Colleges of Nursing (AACN, 2007) calls for reform of nursing education to prepare baccalaureate graduates for work in a pluralistic society to care for the growing number of vulnerable populations (Forbes & Hickey, 2009; Hunt, 2007) and to value social justice (AACN, 2007). Undergraduate nursing education should therefore include activities that develop cultural proficiency as well as a sense of community, service, and social justice (AACN, 2007). One method for such training is through community service learning (CSL) activities geared to serve diverse underserved populations.

John Dewey, recognized as the “father” of service learning, asserted that CSL could be a method for students to contribute to the common good (Dewey, 1938). CSL provides an opportunity for students to partake in experiential learning while simultaneously delivering a needed service to the community (Reising, Shea, Allen, Laux, Hensel, & Watts, 2008). Reported outcomes for CSL include increase in personal awareness, interpersonal relationships, civic engagement, social responsibility and mastery of academic concepts (Eyler, 2001). Introducing CSL early in health career education can encourage health career students to dedicate their lives to underserved communities. For example, a CSL program with third year internal medicine residents focused on primary care service for underprivileged patients resulted in an increase of general internal medicine practitioners who work in underserved areas (Fancher et al., 2011).

CSL has been used as an adjunct to traditional pedagogical methods in a variety of disciplines and academic settings (Trail Ross, 2012). It is valued as a means of providing education to students and service to the community. CSL has been used to educate health career students on the diverse needs of communities as a method of improving student-patient interaction skills while engaging both the student and community in creating a healthier populace (Trail Ross, 2012). It provides an opportunity to improve students’ clinical skills and cultural proficiency through direct contact with a community in need, allowing them to experience a more diverse patient population than what the traditional educational setting provides. This is particularly important for nursing students, who as nurses will be the first line of care for underserved populations.
Figure 1: A community service-learning (CSL) model proposed showing the influence of student's individual characteristics and experience towards motivation to participate in a CSL activity. Preparation and mentoring, as well as the characteristics of the CSL activity itself, will affect actual CSL experience. Reflection, with the guidance of a mentor, will influence realization of growth and improvement, which may have long-term influence on career choices.

Theoretical Framework

Cone and Harris (1996) proposed a six stage lens theoretical model for service learning which captured the individual as well as the interpersonal and socio-cultural nature of service learning. This model informed the creation of the framework used in this study (Figure 1). Initially, a student enters into a learning frame. The student’s value system, individual characteristics and past experiences may motivate participation in the CSL activity. Once the student commits participation, the type of preparation, mentorship and characteristics of the CSL activity would influence the actual CSL experience. Hence, CSL activities must be carefully planned to provide students with experiences that benefit them both academically and culturally. This involves providing students with mentorship and pre-service learning, skills training and theoretical concepts that they could apply in the community. The CSL experience should provide an avenue for students to practice their skills while interacting with the community in need. Following the CSL experience, the student will reflect on the activity, with particular emphasis on growth and improvement of clinical and cultural competencies. The guidance of a mentor facilitates this process. With these steps aligned, the students will potentially realize that CSL has profound effects on their intellectual, professional and personal growth. This realization may influence their long-term career decision to work for underserved populations.

CSL in Nursing Education

Nursing schools have incorporated CSL as part of semester or yearlong courses. These studies have shown that CSL experiences are effective in increasing clinical skills, communication skills, self-confidence, and a sense of social justice (Trail Ross, 2012; Nokes, Nickitas, Keida, & Neville, 2005; Reising, Allen & Hall, 2006; Sensenig, 2007). CSL experiences can also be offered through social organizations that exist within a nursing school or university. Although CSL has been popularly used as part of the nursing curriculum, there is very minimal quantitative research on the students’ perceptions of their service learning experience. Existing literature presents student feedback from qualitative evaluations, usually from student’s reflective journaling, interviews or open-ended questions (Reising et al., 2008). Researchers in nursing have not systematically addressed service learning outcomes, or developed tools to assess them. Attempts to quantify service learning outcomes have recently been done in other disci-
plines such as marketing (Toncar, Reid, Burns, Anderson, & Nguyen, 2006) and public relations (Werder & Strand, 2011), but not in nursing. While evaluative items used in these studies may be applicable to nursing, these tools are lengthy and have the potential to be burdensome to the respondents. The model described in this study used a simple assessment that asked CSL participants to self-rate their clinical skills and cultural competencies before and after the activity. To the best of the authors’ knowledge, there is no literature to date that provides quantitative pre and post measures of the effects of CSL among nursing students who undertook short-term health screening activities.

This report examines the effects of nursing students’ voluntary participation in CSL activities outside the traditional course setting, which are geared towards service to local minority populations. The study evaluated voluntary student participation in free health screenings at two cultural festivals in South Texas. Students were asked to rate their clinical skills and cultural competencies prior to and following the event. Further, it also attempted to identify the motivating factors for their participation. The research questions are three-fold:

1) What motivates students to volunteer in CSL activities geared for minority populations?
2) Does participation in short-term CSL activities improve clinical skills?
3) Does participation in short-term CSL activities improve cultural competencies?

**Methods**

**Design**

This quantitative study identified motivators for CSL participation, and compared the self-rating of undergraduate nursing student volunteers who participated in health screening activities before and following the events. The Office of the Institutional Review Board at the institution approved the use of data from the health screening activity and evaluation of volunteers for publication.

**Setting**

The University of Texas Health Science Center at San Antonio’s International Nursing Students Association (INSA) collaborated with the local Institute of Texan Cultures (ITC). The ITC organizes yearly community festivals (i.e., Asian Festival and Texas Folklife Festival) aimed at celebrating the area’s diverse minority populations. INSA officers, with support from the students’ faculty advisor, organized student-managed free health screenings at these events. All student volunteers attended an orientation session before each activity, which provided them information about the community served and an opportunity to practice the necessary clinical skills.

**Sample**

The sample consisted of junior and senior Bachelor of Science in Nursing (BSN) students (N=32) who volunteered to conduct the extracurricular health screenings organized by a student organization (International Nursing Students Association) at two different festivals in South Texas in 2012: the Asian Festival in January (n=18) and the Texas Folklife Festival in June (n=14). The health screening included family history, body mass index determination, blood pressure, glucose and cholesterol testing, and health education on the health screening results.

**Procedures**

All student volunteers attended an orientation session conducted by nursing faculty to prepare for the health screening activities. The free health screenings were open to all attending community participants and clients, and were supervised by nursing faculty. At the Asian Festival, it was held from 9 AM - 5 PM while at the Texas Folklife, it was held from 11 AM - 5 PM. There were a total of 235 individuals screened at both events. The racial distribution of clients at the Asian Festival was 3% African-American, 16% Asians, 25% White, 46% Hispanic, 2% Native American and 8% not known. The distribution at the Texas Folklife Festival was comparable.
Each health screening event consisted of 4 stations: Station 1- health history and body mass index determination; Station 2- blood pressure; Station 3- blood glucose and blood cholesterol screenings; and, Station 4- health education. Volunteers were monitored by the Faculty Advisor and given the opportunity to rotate in each station, allowing them to participate in all activities. After each, they were provided an opportunity for self and group reflections and invited to complete an anonymous and confidential evaluation survey.

Instrument

The students were asked to complete an evaluation survey at the end of each of the CSL activity. The survey asked students to indicate their demographic information (i.e., gender, age and ethnicity); and their previous participation in any previous CSL projects. They were also asked to identify their motivation in joining the current CSL activity from a series of choices, including professional growth, personal improvement, organizational involvement, commitment to community, cultural curiosity and awareness, curiosity, or others. The volunteers were also asked to self-rate their health screening skills (i.e., health history and assessment, blood pressure, blood glucose and blood cholesterol screenings) and transcultural competencies (i.e., knowledge, appreciation, understanding, communication and community service) before and after the event. Students were asked to complete the 5-point self-rating Likert scale (1 through 5), with 5 having the highest value.

The internal validity of the instrument has been analyzed previously. Analysis from 68 respondents showed that the Cronbach’s alpha of all items (clinical skills and transcultural competencies) was 0.911.

Data analyses

SPSS (PASW Statistics 18 Version) was used to organize and analyze the data for descriptive purposes. Data from first time volunteers and experienced volunteers were separated as we predicted that this would affect the scores. Initial analyses from the two CSL events showed that the results were comparable. Hence, the data from the two events were subsequently analyzed together.

The comparison of each of the clinical skill and cultural competency self-rating at pre vs. post event was analyzed using a two-tailed Wilcoxon Signed Rank Test. To analyze if there was a difference in the self-rating scores at pre and post event between first timers and experienced volunteers, the difference in pre and post CSL scores were initially calculated. The remainder was subsequently analyzed using a two-tailed non-parametric independent t-test for ranks, i.e., Mann Whitney U test. For all statistical tests, significance was set at p >0.05.

Results

Sample Characteristics

The student volunteers (mean age: 25.69; range: 19-42) were an ethnically diverse group—Caucasian = 10, Hispanic = 10, Asian = 8, African-American = 2, and Other = 2. There were 2 males and 30 females. Fourteen were first time volunteers (first-timers), while 18 students previously participated in other CSL activities (experienced).

Motivation

Table 1 shows the ranked order, by frequency, of the identified motivators for joining CSL activities. The volunteers identified professional improvement and personal improvement as the two main motivators. Commitment to community was the third most frequently identified motivator followed by commitment to the organization, cultural awareness and curiosity.
Table 1. Main motivators for participating in a community service learning (CSL) activity

<table>
<thead>
<tr>
<th>Motivators</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional improvement</td>
<td>23</td>
</tr>
<tr>
<td>Personal improvement</td>
<td>21</td>
</tr>
<tr>
<td>Commitment to organization</td>
<td>15</td>
</tr>
<tr>
<td>Commitment to community</td>
<td>18</td>
</tr>
<tr>
<td>Cultural awareness</td>
<td>11</td>
</tr>
<tr>
<td>Curiosity</td>
<td>9</td>
</tr>
<tr>
<td>Others</td>
<td>3</td>
</tr>
</tbody>
</table>

Figure 2. Self-rating of clinical skills, i.e., health history, blood pressure (BP), blood glucose and blood cholesterol screening, before and after the CSL activities by first-time (A) and experienced volunteers (B). *p<0.05 difference from pre-event rating using a two-tailed Wilcoxon Signed Rank Test.

Figure 2. Self-rating of clinical skills, i.e., health history, blood pressure (BP), blood glucose and blood cholesterol screening, before and after the CSL activities by first-time (A) and experienced volunteers (B). *p<0.05 difference from pre-event rating using a two-tailed Wilcoxon Signed Rank Test.
Clinical Skills
The self-rating scores for both first-timers and experienced student volunteers for their clinical skills are shown in Figures 2A and 2B. Analysis by Wilcoxon Signed Rank Test showed that the CSL activities significantly increased first-timers’ self-rating for health history ($z=-2.754$, $p=0.006$), blood pressure ($z=-2.565$, $p=0.010$), blood glucose ($z=-2.388$, $p=0.017$) and blood cholesterol ($t=-2.694$, $p=0.007$). In contrast, while there was an increase in self-rating for clinical skills, there was no significant difference between pre and post event scores of experienced volunteers (Figure 2B): health history ($z=-1.0$, $p=0.317$), blood pressure ($z=-1.732$, $p=0.083$), blood glucose ($z=-1.342$, $p=0.18$) and blood cholesterol ($t=-1.89$, $p=0.059$).

Figure 3. Self-rating of transcultural competencies, i.e., knowledge, understanding, communication, appreciation and community service, before and after the CSL activity by first-time (A) and experienced volunteers (B). *$p<0.05$ difference from pre-event rating using a two-tailed Wilcoxon Signed Rank Test.

Transcultural Competencies
The self-rating scores for first-timer and experienced groups’ transcultural competencies are shown in Figures 3A and 3B. Analysis by Wilcoxon Signed Rank Test showed that the CSL activities significantly increased first-timers’ self-rating of transcultural competencies, i.e., knowledge ($z=-2.807$, $p=0.005$), understanding ($z=-2.484$, $p=0.013$), communication ($z=-2.970$, $p=0.003$), appreciation ($t=-2.157$, $p=0.059$).
p=0.031), and community service (t=-2.546, p=0.11). CSL experiences also significantly increased the experienced volunteers’ self-rating of their transcultural competencies (Figure 3B), i.e., knowledge (z=-2.714, p=0.007), understanding (z=-3.000, p=0.003), communication (z=-2.636, p=0.003), proficiency (t=-2.530, p=0.011), but not community service (t=-1.342, p=0.180).

First Timers vs. Experienced CSL Volunteers

Comparison of the change in test scores between pre and post event using the Mann Whitney U test showed a significant difference between the self-rating of first-timers vs. experienced CSL volunteers for all clinical skills, i.e., health history (z=-3.517, p<0.001), blood pressure (z=-2.638, p=0.008), blood glucose (z=-2.045, p<0.077), and blood cholesterol (z=-2.661, p=0.008).

For transcultural skills, the comparison of the change in test scores between pre and post event using Mann Whitney U test showed a significant difference between the self-rating of first-timers vs. experienced CSL volunteers for community service (z=-2.781, p=0.005), but not for knowledge (z=-1.179, p=0.238), understanding (z=-0.950, p=0.342), communication (z=-1.332, p=0.183), and appreciation (z=-0.671, p=0.502).

Discussion

This current study demonstrates quantitatively that participation in short-term CSL activities significantly improves the clinical skills and transcultural competencies of student volunteers. This effect was highly significant for first-timer volunteers compared to experienced volunteers. Interestingly, while experienced CSL volunteers did not have a remarkable increase in clinical skills ratings at post-event, there was still a significant improvement in their self-rating of transcultural competencies. This improvement for experienced volunteers may be attributed to the diverse range of minority populations that they interacted with at both events. This highlights the need to provide students with the opportunity to interact with diverse populations, which can be accomplished by incorporating CSL activities.

Motivation

The sample population in this study was unique when compared to previous CSL studies reported (Trail Ross, 2012; Nokes et al., 2005; Reising et al., 2006, 2008; Sensenig, 2007). In the present study, nursing students participated in extracurricular CSL activities organized by a nursing student organization and led by the faculty advisor. Since these CSL activities were conducted outside the classroom setting and the students’ curriculum, the students’ performance was not graded by the faculty advisor. Therefore, the students’ participation was voluntary and their personal choice. Exploration of the main motivators revealed professional growth and personal improvement were associated with increased clinical and cultural skill competencies. Commitment to the community was not identified as a main motivator. However, it is noted that both first-timers and experienced volunteers reported improvements in cultural knowledge, understanding, communication, and appreciation following the event. There was no significant difference in community service at post event for experienced volunteers because these were already scored high at baseline (Figure 3B). Knowledge of these motivators will benefit recruiters hoping to introduce students into future CSL activities.

There is a need for more healthcare professionals to serve diverse minority populations, especially in rural settings. The shortage of providers in rural areas is threatening the quality and availability of health care in many communities (Toncar et al., 2006). Engaging healthcare profession students with underserved communities during their educational training may encourage them to practice in settings which serve these populations. Knowledge of personal motivators to participate in these activities might help increase participation and community engagement, and hopefully recruitment and retention of rural healthcare providers.
Improvement of Clinical and Cultural Skills

Previous studies have shown, mostly through qualitative reflections, that CSL experiences are effective in improving students’ clinical skills, communication skills, self-confidence, and their sense of social justice (Trail Ross, 2012; Nokes et al., 2005; Reising et al., 2006, 2008; Sensenig, 2007). The quantitative improvement in clinical skills and cultural competencies shown in this current study supports this hypothesis. The CSL activities focused on health education and health promotion. On the basis of the information from the health screening, student volunteers shared health knowledge and information to the clients; taught coping strategies and health behaviors that contribute to positive health outcomes and better health decision-making skills. Interestingly, first timers viewed communicating with clients on appropriate health education as most daunting at the start of health screening activities. By the end, students commented on their ease with providing appropriate health education to clients. In addition to familiarity with the health screening process, this perspective change may have resulted from the improvement of the volunteers’ cultural competencies, especially in transcultural communication.

During reflective discussions with the Faculty Advisor throughout and after the activities, student volunteers discussed their insights into barriers to health care and social justice that impact access to care. Like previous studies (Trail Ross, 2012; Nokes et al., 2005; Reising et al., 2006, 2008; Sensenig, 2007), students were able to witness first-hand the human cost of social injustices and the different ways this cost is manifested in the community. These experiences provided students with the opportunity to view health from a broader social and ecological perspective. It also enabled students to relate issues of social justice to the client’s ability to self-manage their health and that of their families and communities.

As our CSL model predicted, the alignment of student’s motivation to participate in a CSL activity, as well as proper preparation and mentorship of a CSL activity geared towards minority populations, yielded positive outcome of growth and improvement following mentored reflection. This has the potential to influence whether their long-term career choices will be to serve these populations. This is beyond the scope of this study. However, follow-up may be conducted on these students as they embark on their respective professional careers.

Format of CSL Activities

The literature reports on CSL activities in nursing schools as an adjunct to courses offered in either semester or year-long basis. We demonstrated in this study that short-term voluntary CSL activities geared towards the minority population also improved students’ clinical skills and cultural competencies. Partnering with a local institution that organizes activities designed towards celebrating minority populations provided an opportunity for students to interact with a diverse group of individuals whom they would not likely encounter in the traditional classroom setting.

Gillis and MacLellan (2012) identified barriers to successful service learning for students, faculty and community partners, i.e., insufficient time, heavy workloads, limited infrastructure and support, lack of human and financial resources, scheduling and coordination problems. Provision of orientation sessions prior to the health screening activities countered some of the student-specific barriers, including intense anxiety over the poverty of the clients and feelings of helplessness in service learning environments. Having activities in well-attended venues provided the buffer for students’ possible difficulties in gaining entry into the population served.

Time constraints have also been identified as a significant barrier for faculty involvement in service learning activities for students (Gillis & MacLellan, 2012). The collaborative partnership with a local organizing institution produced a win-win situation for both faculty and the community partner. Faculty invested less time gathering a pool of potential community clients from underserved populations for students to interact with, because these events are already popular in the community. On the other hand,
the community partner was able to offer a much-needed health screening service to the community, in addition to the cultural and social events.

Limitations

An inherent weakness of the study design is the self-report nature of the survey. Nevertheless, the results provide preliminary quantitative evidence of the usefulness of CSL in nursing education. Whether the improvement seen in this study translates to a more long-term effect is not known. For example, it will be interesting to know if the students who participated in these CSL activities become the culturally-proficient nurses who will provide care for underserved populations. This is certainly a question worth asking in future studies, more appropriately addressed employing a longitudinal study design to track students following graduation.

Conclusion

While CSL is popularly used in schools of nursing as an adjunct to provide community-based training to students, there is very little evidence in the literature showing quantitative evidence that CSL is effective in improving students’ clinical and cultural skills. This study demonstrates that CSL can significantly improve students’ clinical and cultural skills even in short-term programs. By employing CSL activities, communities are able to partner with universities and schools of nursing to meet identified health needs. CSL also provides nursing students the opportunity to care for diverse vulnerable populations, affording them the opportunity to become agents of social change.

References


