



Nursing Students' Experiences of Community Service-Learning During the Pandemic: Pedagogical Benefits for Nursing Ethics Education

Hsiao Lu Lee, RN, Ph D.,

Associate Professor, Department of Nursing, Tajen University, No.20, Weixin Rd., Yanpu Township, Pingtung County 90741, Taiwan.

Article Details

Article Type: Research Article

Received date: 19th September, 2024

Accepted date: 06th November, 2024

Published date: 08th November, 2024

***Corresponding Author:** Hsiao Lu Lee, RN, Ph D., Associate Professor, Department of Nursing, Tajen University, No.20, Weixin Rd., Yanpu Township, Pingtung County 90741, Taiwan.

Citation: Lee, H. L., (2024). Nursing Students' Experiences of Community Service-Learning During the Pandemic: Pedagogical Benefits for Nursing Ethics Education. *J Comp Nurs Res Care* 9(2): 206. doi: <https://doi.org/10.33790/jcnrc1100206>.

Copyright: ©2024, This is an open-access article distributed under the terms of the [Creative Commons Attribution License 4.0](https://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract

Background: In 2020, the novel coronavirus pneumonia (COVID-19) broke out around the world. In order to reduce close contact between people, Taiwan's clinical education practice shifted to online and classroom teaching. Since our school is located in the south of Taiwan, the school's only internship courses were withdrawn from the hospital to the school's technical practice. Nursing ethics courses can still be taught, but if you want to serve in the community, most institutions politely refuse.

Aim: The aim of the study was to service-learning teaching strategies to improve students' use of nursing ethical principles to serve people of the community, and the objective was that improve students' moral sensitivity and capability of service-learning through learning by doing.

Methods: This study adopted a quasi-experimental research design with a pre-test and post-test method. Teachers assisted students in planning the application of ethical nursing principles and integrating them into their service-learning plans. Two hundred and forty three third year nursing students, aged 18-19 years, participated in this study.

Results: Nursing students' moral sensitivity and service learning increased significantly after 16 weeks (Pair-t=-6.589***; Pair-t=-6.994***). Moral sensitivity and service learning showed a significant positive correlation in the pre-test and post test ($r=.248^{**}$, $r=.512^{**}$), and students' reflection diaries reflected the application of nursing ethical principles and achievement of the nursing ethics course objectives.

Discussion: Nursing ethics can use service-learning teaching strategies to help nursing students develop professional strength and increase ethical literacy in interacting with people, and the learning process can reflect on the application of ethical principles.

Keywords: Service-learning, Moral Sensitivity, Nursing Ethics, Nursing Students, COVID-19

Background

The working environment of nurses differs from those of other workers because nurses tend to be people facing birth, old age, illness,

or death. Therefore, the expectations of professionalism, skills, and ethics related to nurses are different from those related to other occupations. Nursing schools attempt to instill ethical competence in nursing students through ethics curricula. More specifically, in addition to cultivating intellectual cognitive ability, nursing students are required to learn the core values of nursing ethics (i.e., integrity, kindness, respect, and justice) through nursing ethics education.

Nursing ethics education

The Taiwan Nursing Accreditation Council (TNAC) [1] declared that nursing students should possess eight core competencies of the nursing profession. Ethical literacy is one of the core competencies of the nursing profession. Therefore, Taiwan various nursing schools and university courses list nursing ethics education as a required course for nursing students. Nursing ethics education should ensure that after nursing students acquire nursing ethics knowledge and skills, nursing students can have moral sensitivity to deal with moral situations [2]; Moral sensitivity is the basis for cultivating ethical literacy, because only nurses with moral sensitivity can empathize with the needs of the patient, safeguard the rights and interests of the patient, and advocate for the patient [3]; A person with moral sensitivity can take responsibility for what is required of the role of consciousness in a moral or ethical situation [4]. The purpose of nursing ethics education is to cultivate students' moral sensitivity so that they can become excellent and responsible nurse.

Nursing ethics education requires student reflection and discussion to enable nursing students to enhance their ethical sensitivity to nurse's interpersonal relationships [5]. However, it is not enough for nursing ethics courses to cover only an introduction to ethics, ethical principles etc., There needs to be a service field to train nursing students in ethical decision-making, and professional abilities demonstrate problems in real-life environments [6]. How to evaluate whether nursing students have nursing ethics literacy? The current evaluation of the benefits of learning nursing ethics is mostly cognitive level and lack emotional attitude level and skill display; community service learning provides students with a way to practice cognitive nursing ethics theory and a good strategy [7]. According to Dewey, literacy refers to the ability to gradually form behavioral

characteristics through subtle influence or education and to transform these characteristics into observable personal interactions and behaviors at appropriate times [8, 9]. However, if nursing ethics education focuses only on the cognitive level and lacks a practicum and evaluation of behavioral performance, ethical quality remains at the knowledge level only. This drawback is similar to the idea of someone knowing that cheating on a test is wrong but still doing it. So, ethics should be consistent in cognition and behavior. Rashidi et al. [10] stated that nurses' moral sensitivity is a prerequisite for sound decision-making in the face of ethical situations, making moral sensitivity a critical skill for nursing students.

In 2020, several COVID-19 outbreaks occurred in Taiwan. Although Taiwan's government was initially able to control the spread of the disease, community institutions gradually halted student service-learning to avoid gatherings, to the point where very few community institutions allowed students to practice service learning. During the epidemic, in the community service-learning field, students were strictly required to be tested for COVID-19. At that time, the testing fee was US\$100, which was a financial burden for students. With the epidemic under control, testing tests can be conducted at home, and COVID-19 doses are also cheaper. Teachers and students work together to seek nursing homes or long-term care institutions that can provide student services-learning.

By observing students' behaviors while engaged in service learning in community institutions, teachers can use field research methods to understand students' behaviors in helping others, such as whether their speech and behavior adhere to the goals and principles of nursing ethics education, are in line with the core moral values of nursing and promote self-growth to contribute to societal improvements. Tanaka and Tezuka [11] demonstrated that in addition to lecture methods, multifaceted educational strategies such as network integration, online self-study, group discussion, and analysis of moral issues can enhance students' moral sensitivity. In this study applied service-learning strategies to nursing ethics education to combine theory, practice with service learning and helps nursing students to develop professional [12]. This purpose of study was to help nursing students consolidate professional nursing skills, link the core values and practices of nursing ethics and provide community service to implement health care plans, and evaluate the effectiveness of nursing ethics teaching.

Service learning incorporates into professional learning

Service learning incorporates the concept of service into professional learning, emphasizing that learning and service are equally vital. Service learning can promote the application of professional

knowledge and skills learned in schools by students during service and thus can fulfill clients' needs and cultivate nurses' civic responsibility and community care skills [13]. In addition, nursing students can enhance their professional knowledge and ability through the experience of service learning [14].

Fertman et al. [15] asserted that service learning has four dimensions: preparation, service, reflection, and celebration. Preparation: nursing students attempted to understand the needs of the community to develop and write a service plan. Service: Engaging with the institute (community) is beneficial for students' learning and provides a platform for them to apply their theoretical knowledge. Such a platform can, in turn, assist the institute (community) in solving problems through planning and action [16]. Reflection: During service learning, students interact and learn from people and matters in service settings [17] they seek to understand the core values of nursing ethics and attempt to improve their self-reflection ability. Celebration: Celebrating students' contributions in service activities is an essential element of service learning given that such celebration recognizes students' dedication during service-learning courses.

By using Dewey's "learning by doing" [18] education model, this study attempted to help third-year junior nursing college students understand the core values of nursing ethics after a nine-week course in nursing ethics. By servicing others, students apply professional knowledge and nursing skill to assist and care for other individuals and to achieve effective learning through reflection after service learning. The aim of the study was to service-learning teaching strategies to improve students' use of nursing ethical principles to serve people of the community.

Methods

Design, study site, and participants

We used a quasi-experimental research design, namely the one-group pre-and-posttest method. The participants underwent a pre-test 1 week before the commencement of nursing ethics education and service learning and a post-test in week 16 (Figure 1).

We recruited 250 third-year nursing students (age: 18–20 years old) from a junior nursing college, Taiwan. The researchers explained the study aims and procedures to NS. The study commenced only after the participants had signed the informed consent form.

The mean age of the 250 participants (214 women and 36 men) was 18.32 years., 210 (88.2%) participants lived in urban areas, and 87 (36.6%) nursing students choose to major in nursing based on their parents' advice (Table 1).

Table 1: Demographic attributes of nursing students (N = 240)

Item	N	%
Age		
18 years	139	57.9
19 years	100	41.7
20 years above	4	0.4
Gender		
Male	36	14.4
Female	212	85.6
Area of residence		
Urban area	211	87.9
The suburbs	29	12.1
Birth ranking		
Only child	40	16.7
First	76	31.7
Median	31	12.8
Final	93	38.8
Religious		
None	109	46.0
Buddhism	29	12.2
Taoism	76	32.0
Christianity (or Catholic)	21	8.8
Family type		
Extended family	28	11.7
Stem family	55	22.9
Nuclear family	122	50.8
Single parent family	35	14.6
Family income (US dollars)		
8333below	42	17.9
8666-16666	79	33.6
16667-33000	79	33.6
33001-50000	29	12.3
50000 above	6	2.6
Reasons for choosing nursing major.		
Advice from parents		
own likes	87	36.6
work for the future	71	29.8
Convenient transportation	62	26.1
Classmates agree with each other	11	4.6

Service-learning teaching strategy and nursing ethics course

One of the goals of nursing ethics education is that students can apply nursing ethics principles in clinical situations through service-learning teaching strategies. The service-learning plan had four

elements: preparation, service, reflection, and celebration. The service-learning strategies were integrated into teaching plans (Figure 1) as follows:

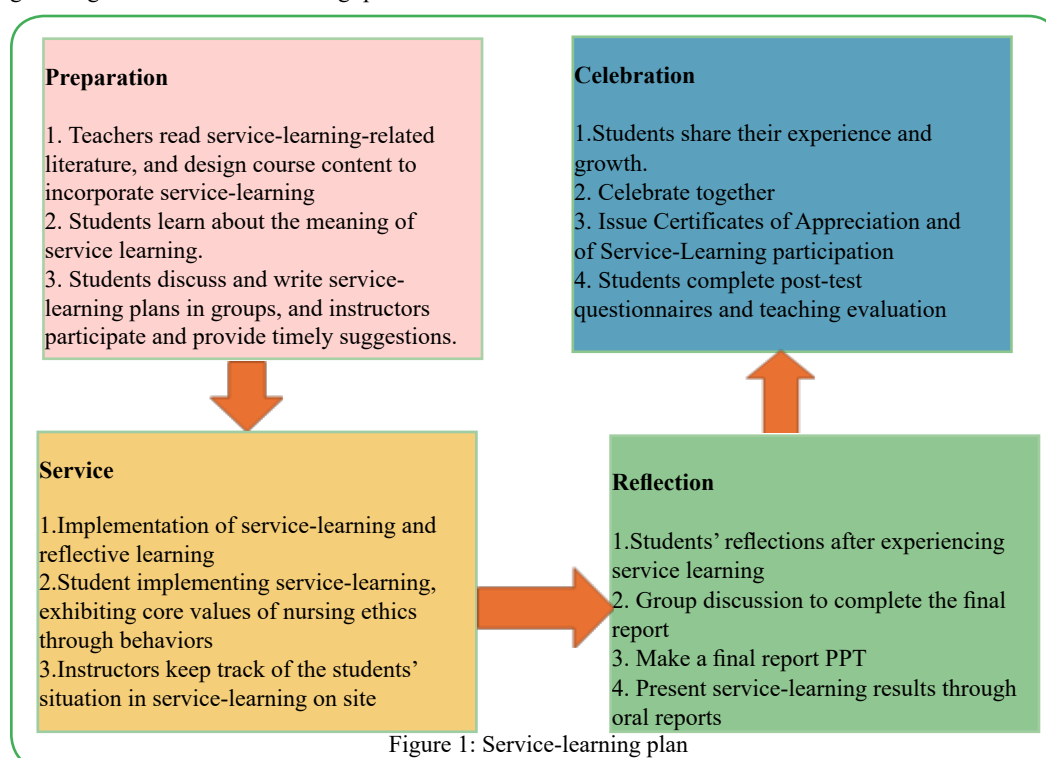


Figure 1: Service-learning plan

Note:

1. Teacher: teach nursing ethics courses.
2. Instructors: guide groups to write service-learning plans and accompany students to institutions or communities for service learning.
3. Students: taking nursing ethics courses and perform service learning.
4. Communities: the people in the community
5. Institutions: cases in elderly centers or nursing homes.

Preparation: With the teacher's guidance, each student designed their own service-learning plan.

1. Teachers (teaching nursing ethic course) designed service learning by writing a plan format and a service-learning review mechanism.
2. The teachers, students, and institutions (Nursing home or long-term care center), jointly developed service-learning plans.
3. Students discuss and write service-learning plans in groups, and teachers participate and provide timely suggestions.

Service learning is an intervention teaching strategy in nursing ethics education. The first step is to teach students to understand what service-learning and service-learning plans are. Second, divide the whole class of 50 people into 5 groups, with a total of 25 groups in 5 classes. The third is students to look for the organizations or communities they want to serve. Students go to the community or institutions on their own. However, due to the epidemic, institutions refuse nursing students to come to the institution for service learning. Some institutions require all students to have more than 3 doses of vaccination. The pandemic limited clinical opportunities in community. The students asked the teacher for assistance in finding people or institutions in the community. Teachers seek nursing homes or long-term care centers that will not turn away nursing students and allow them to perform service-learning. The fourth is for students to discuss in groups and write in accordance with the teacher's service-learning format and match the needs of the organization or community. Students use their spare time to discuss the purpose of the activity, activity process, required materials and venue layout. The budget is to purchase the materials needed for the activity,

and to desire posters to encourage cases within the organization to participate. Fifth, each group must have at least three discussions with the teacher. The content of the discussion includes the content of the plan, whether the goals meet the needs of the agency's case, and preview activities. The teacher will comment on the results after the plan is written (Table 2). each group spend more than 10-15 hours in their spare time for service-learning plans.

Service: Students and in go to institutions and community activity centers to implement service-learning projects for about 1-1.5 hours. Students start with self-introduction, health education, lead cases to do warm-up exercises, art therapy such as painting, music, or cognitive therapy, such as number exercises, etc. a simple ball game. In the last 10 minutes, the organization or person, in charge will guide the participants to ask questions or share. They thank the students for bringing the activities. Finally, the students thank the organization for providing them with the opportunity to serve. The nursing teachers monitored the students' progress in service learning on site and observed their speech and behaviors.

Reflection: The students recorded their experiences in service learning, such as the roles they played in service learning, the significance and learning of services, and how they could apply what they had learned in the future. Each student composed a reflection log at the end of the service-learning program.

Celebration: The students' accomplishments were celebrated by the teacher and students together. The students were awarded certificates of appreciation from the organization as well as certificates of service-learning participation.

Table 2: Service-learning process integrated into nursing ethics course time

Hours' time	Course topic	Content
1 ^a	Explain the purpose of this study	1. Obtain informed consent from students 2. Conduct questionnaire pre-test
2	Teaching service-learning	1. Course content – understanding service-learning. 2. Explain the format of the service-learning project. 3. Explain the key points of group discussion. 4. Teachers guide students in writing and executing plans.
6 ^a	Group discussion a and teacher assistance	1. Find a service-learning location 2. Three group discussions (1) Visit the service location to understand the needs of the agency or community cases (2) Discuss the service-learning plan and the content and division of labor in line with the goals of the course (Ethical Principles of Nursing) (3) Practice service-learning activities and maintain the safety of participants during the process (principle of non-maleficence)
2	Execution of service-learning plan Implementation of core values of nursing ethics	1. The teacher take them to communities or institutions to perform community services 2. Students introduce themselves and perform service-learning activities 3. The teacher observes whether students' behavior is correct and reminds students to pay attention to the safety of participants 4. Thank each other
4	Service-learning plan, execution and oral report sharing	1. Students gave oral reports on the results of the service-learning project, reporting learning effectiveness, areas for improvement and reflections. 2. Conduct questionnaire post-test
a After class time		

Ethical considerations

The present study protocol was approved by the Institutional Review Board of Chen Kung University (107-389). In accordance with the study protocol, the researchers clearly explained the study aims and procedures to the participating students, and the study commenced only after the participants had signed the informed consent form. After completing the questionnaire, the participants each received a small gift.

Instruments and data analysis

To collect data, three instruments were used. First, each nursing student's basic information was collected, namely their age, area of residence, family income, etc. Second, the Taiwan Nursing Student Moral Sensitivity Questionnaire (NS-MSQ), developed by Lee & Huang [19]. NS-MSQ was divided into five categories to explore, patient-centered care, moral conflicts, and ethical principles, professional responsibility and maintenance of privacy. There are 18 questions, and the level of agreement is measured on the Likert scale from 1 to 7 (1 is strongly disagree, 7 is strongly agree). The Cronbach's alpha of the questionnaire is 0.9, and the validity is 0.885. Third, we also employed the Efficacy of Service-Learning Questionnaire developed by Chou et al. [12] after obtaining permission from that author. This questionnaire has a high CVI (93.4%) and a Cronbach's alpha of 0.86–0.93. Each item is scored from 0 to 10, with higher scores indicating higher service-learning efficacy. The questionnaire

has nine categories, namely self-understanding and self-confidence, communication skills, problem-solving skills, civic participation and social responsibility, team skills, self-reflection, knowledge application, caring for others, and intercultural competence.

Results

Demographic factors associated with moral sensitivity and service learning

There was no significant difference in students' moral sensitivity and service-learning scores depending on the students' religious beliefs, birth order, areas of residence (i.e., urban, or suburban areas), parents' jobs, parents' educational levels, family type, reasons for choosing to study nursing, family incomes. Compared with the male students, the female students had significantly higher pre-test scores for moral sensitivity ($p = .009$) and for service learning ($p = .039$); however, no significant differences were observed between the posttest scores of the female and male students for moral sensitivity ($p = .590$) or for service learning ($p = .649$). Correlation between moral sensitivity and service learning.

The posttest scores for moral sensitivity (five categories: patient-centered nursing, the principal of nonmaleficence, professional responsibility, moral conflict, and privacy) and service learning (nine categories: self-awareness and self-confidence, communication skills, problem-solving ability, civic participation and social responsibility, team skills, self-reflection, application of knowledge, caring for

others, and cross-cultural competence) exhibited significant improvements (*paired- t* = -6.589^{***} , $p < .05$ and *paired- t* = -6.994^{***} , $p < .01$) (Table 3). In addition, the total posttest score

(240.42 ± 41.97) was significantly higher than the total pretest score (218.90 ± 35.16) (Table 4).

Table 3: The moral sensitivity of nursing students was significantly improved by the intervention of service learning strategies

Categories of moral sensitivity	Pre-test M±SD	Post-test M±SD	Pair-t	P
Patient-centered nursing	6.25±0.54	6.53±0.56	-6.169	.000
principle of non-maleficence	6.35±0.63	6.53±0.67	-3.533	.001
Professional responsibility	5.67±0.9	6.20±0.88	-7.716	.000
Moral conflict	5.70±1.01	6.32±0.78	-7.89	.000
Privacy	6.03±0.91	6.45±0.76	-5.818	.000
Total score	110.84±9.7	116.22±10.72	-6.589	.000

Table 4: The categories of service learning of nursing students were significantly improved by the intervention of service-learning strategies

Categories	Pre-test M±SD	Post-test M±SD	Pair-t	P
Self-awareness and self-confidence	20.79±6.93	20.79±0.56	-6.169	.000
Communication skills	19.59±6.89	27.68±4.26	-4.773	.000
Problem-solving ability	18.95±6.99	27.45±4.89	-5.618	.000
Civic participation	18.13±7.18	27.65±5.23	-5.192	.000
Team skills	21.52±7.92	28.8±4.33	-4.333	.000
Self-reflection	19.69±8.24	28.78±4.74	-5.136	.000
Application of knowledge	20.09±7.78	33.3±18.73	-3.113	.005
Caring for others	21.22±9.34	29.09±5.01	-4.165	.000
Cross-cultural competence	20.31±8.80	24.50±4.14	-2.043	.054
Total score	218.90±35.16	240.42±41.97	-7.367	.000

The pretest moral sensitivity score was significantly correlated with the pretest and posttest service-learning scores ($r = .489^{***}$ and $.248^{***}$), as was the posttest moral sensitivity score ($r = .95^{**}$ and $.512^{***}$). These results implied that the higher the effectiveness of service learning, the higher were the moral sensitivity.

Reflection log

The students' reflections are summarized as follows (1) Students can understand that service learning is to use professional knowledge and skills to assist community residents or their health (2) Students understand the implementation and necessity of experiential learning and ethical principles (3) Students initially think that they may not be competent and serve after experience I feel that I can do it and gain a lot from learning (4) What students said will be used in the professional service field in the future. Students can achieve the goals of nursing ethics teaching service-learning as a strategy for applying nursing ethical principles in community or institutional service-learning.

Principle of beneficence:

SN: I saw that many grandparents are physically restricted in their activities. If you don't move your muscles and bones and stretch them, you may experience contracture in the future. Therefore, we

teach them to exercise and have fun. This makes me happy, too.

SN: When we designed the activity, considering that some elderly people may not be in the habit of exercising, leading to the acceleration of physical function deterioration, we decided to use elastic bands to exercise so that the elderly people could move their bodies and slow down the speed of deterioration.

SN: This service is the principle of beneficence, which I can use in future service learning. I think that service learning allows me to not only learn how to teach older people to exercise and to assess whether the exercise is safe but also promote the way we communicate with older people, like speaking not too quickly and with a loud voice. Be clear and demonstrate the action as much as possible.

Principle of nonmaleficence:

SN: The layout of the venue needs to be bright, and the floor needs to be dry and not slippery so that the elderly people can exercise in a safe environment to prevent them from falling. This is the principle of nonmaleficence.

SN: After this activity, I saw that many grandparents were restricted by their bodies. If older people do not have the opportunity to move their muscles and bones and stretch them, they may experience joint contracture in the future.

Be thankful:

SN: Thank you very much to the teachers for allowing us to learn a lot through this activity.

SN: We may not be able to bring activities to people at first, but we have been reminded by the teacher in the process as we learn. thanks teacher.

SN: I am very grateful to the teacher for allowing us to learn a lot through this activity. We did not lead community service activities at the beginning, but in the process—through the teacher's revision plan, drills, and corrections—we gained the courage to communicate with the crowd.

Each service-learning session of the program in this study was accompanied by a teacher. The teacher understood the students' service-learning situations and assisted with related matters on the spot to ensure the smooth progress of service learning. One of the teachers wrote in their reflection diary that although the teachers and students had brought happiness to the older adults through service learning, this happiness was also given back to them. One teacher stated that when she looked in the mirror at night, she felt that she appeared more beautiful than before because of the experience of receiving happiness. Furthermore, the teachers were happy to witness the growth of the students, and the development of their ethical principles related to nursing; they asserted that this was their greatest achievement as teachers.

Discussion

This study found that the relationship between service learning and moral sensitivity is significantly related. When students experience service-learning, their moral sensitivity is significantly improved. Therefore, it is recommended that nursing ethics course teaching strategies can increase the experience of community service and allow students to have real life experience. They didn't have confidence in serving the elderly in the community at first, through service-learning, they have turned into awareness of one's own growth. These findings are consistent with those of He and Li, [20] in which the basic core literacy of a sample of 589 students significantly improved after their participation in service learning. Instruction related to service learning can improve overall teaching quality and can enhance the quality of interactions between teachers and students.

Among the six categories of moral sensitivity, nursing students had the highest score in principle of non-maleficence. Nursing students were able to uphold the principle of non-maleficence in individual cases. The second highest score was Patient-centered nursing. The lowest score was Moral conflict in the pre-test. The lowest score in the post-test is Professional Responsibility, which indicates that nursing students may have cognitive difficulties with moral conflicts. In the post-test, due to learning nursing ethics and service learning, the scope of moral conflicts has significantly improved. In the post-test, the professional responsibility score is the lowest, but there is still an improvement. Comparing the score differences of American nursing students' moral sensitivity [21], the categories of American nursing students' moral sensitivity are ranked as structuring moral meaning, interpersonal orientation, expressing benevolence, modifying autonomy, and the lowest score is experiencing conflict. Although they are all nursing students, it is difficult to compare the differences in the moral sensitivity scale due to different cultures. However, nursing students have lower scores for experience conflict and moral conflict. When faced with conflicts, nursing students are always the weaker party and worry that their voice or speech will cause greater disputes. When teachers or nurses lead nursing students to face conflicts, they can use simulated situations to resolve conflicts and give nursing students opportunities to express and explain.

The instruction can promote understanding of students' learning status and can help teachers provide suggestions regarding students' service-learning plans and during the rehearsal of service-learning activities. In this study, the students improved their interactive and

cooperative skills and their professional competencies through the service-learning process. In addition, they experienced service learning as experiential learning and later applied the professional knowledge that they had learned in the classroom to serve their communities. Some of the students lacked confidence initially and were unwilling to communicate with older adults; however, over the course of the service-learning program, the students exhibited improvements in their attitudes, their ability to engage in teamwork, and their ethical principles and moral sensitivity. These findings align with those of Davis et al. [22], who found that international service learning can strengthen medical students' skills and improve their self-confidence.

The students were exposed to elderly people and learned how to communicate with them—including speaking slowly, loudly, and not with high pitch—and how to understand their individual needs. One of these elderly people asked a student to avoid calling them grandpa given that they were not married and had no grandchildren. After that incident, the students started calling the elderly people handsome men and beautiful ladies, which the older adults were very happy to hear. This type of experiential learning enabled the students to learn how to deal with their service targets' question and communication. In this way, service learning can help students explore their career aspirations and determine their desired career direction within the nursing profession.

Conclusion

Service-learning activities exhibit promise as part of a teaching strategy to cultivate the core values of nursing ethics among nursing students. In this study, among a sample of nursing students, moral sensitivity and service-learning ability were significantly improved after the application of a service learning-based teaching program. After the program, the student participants' words and behaviors exhibited an understanding of the principles of nonmaleficence, beneficence, and being thankful. Based on these findings, service-learning strategies appear to be suitable for application in nursing ethics education courses given their ability to enable students to learn through experience and learn by doing and thus to improve students' ethical perspective and facilitate their career exploration.

Suggestions

The results indicated that the moral sensitivity and service-learning ability of nursing students significantly improved after the application of a service learning-based teaching program. In the future, nursing students could first go to the community to complete community assessments and to interview community opinion leaders, including public opinion representatives and village chiefs, to understand the types of services needed by the community as well as the desired direction of community development. The findings indicated that service learning improved the participating students' ability to self-reflect. For example, one of the students expressed the following opinion: "It is worthwhile to complete this report. It has given me a new understanding of older people. Every time I think of the games we prepared, I feel happy, and when I think of those old people playing games, I imagine them joking with one another and helping one another as children do. I now feel happy when watching groups of elderly people playing games." Furthermore, the teachers in this study were able to the growth of the nursing students. Based on the present findings, nursing ethics education could be integrated into service-learning strategies to enable future nurses to serve the community by assessing, planning, implementing, and evaluating their goals. Service learning help them learn by doing and enhance student nurses' professional skills and moral sensitivity.

References

1. Taiwan Nursing Accreditation Council (TNAC) (2005). Professional core competencies at both the academic and junior college levels (Professional Core value). Retrieved January 5, 2015 from [http://www.heeact.edu.tw/ct.asp?xItem=1086&CtN ode=355&mp=1\(in Chinese\)](http://www.heeact.edu.tw/ct.asp?xItem=1086&CtN ode=355&mp=1(in Chinese))

2. Vynckier, T., Gastmans, C., Cannaerts, N., & de Casterle, B. D., (2015). Effectiveness of ethics education as perceived by nursing students: development and testing of a novel assessment instrument. *Nursing Ethics*, 22:287-306. DOI:10.1177/0969733014538888
3. Myhyun, P., (2009). The legal of nursing ethics education. *J of Nursing Law*. 13(4):106-113. DOI:10.1891/1073-7472.13.4.106
4. Lützn, K., Dahlqvist, V., Eriksson, S., & Norberg, A., (2006). Developing the concept of moral sensitivity in healthcare practice. *Nursing Ethics*. 13:187-196. DOI:10.1191/0969733006ne837oa
5. Jiménez-Herrera, M. F., Font-Jimenez, I., Bazo-Hernández, L., Roldán-Merino, J., Biurrun-Garrido, A., & Hurtado-Pardos, B., (2022). Moral sensitivity of nursing students. Adaptation and validation of the moral sensitivity questionnaire in Spain. *Plos One*.; 17: e0270049. DOI: 10.1371/journal.pone.0270049
6. Park, H. A., Cameron, M.E., Han, S. S., Ahn, S. H., Oh, H. S., & Kim, K. U., (2003). Korean nursing students' ethical problems and ethical decision making. *Nursing Ethics*.; 10:638-653. DOI:10.1191/0969733003ne653oa
7. Suresh, A., Wighton, N. M., Sorensen, T. E., Palladino, T. C., & Pinto-Powell, R.C., (2002). A hybrid educational approach to service learning: Impact on student attitudes and readiness in working with medically underserved communities. *Medical Education Online*. 27:2122106. DOI: 10.1080/10872981.2022.2122106
8. Dewey, J., (1991). Freedom and culture. In: Boydston J, editor. The later works of John Dewey. *Illinois: Southern Illinois University Press*. p. 168-169. <https://libguides.lib.siu.edu/johndewey>
9. Shan, W. J., (2020). Meeting John Dewey in the directions for curriculum guidelines of 12-year basic education. *Contemporary Educational Research Quarterly*. 28:1-29. DOI: 10.6151/CERQ.202006_28(2).0001
10. Rashidi, K., Ashktorab, T., & Birjandi, M., (2022). Impact of poetry-based ethics education on the moral sensitivity of nurses: a semi-experimental study. *Nursing Ethics*.; 29:448-461. DOI:10.1177/09697330211041741
11. Tanaka, M., & Tezuka, S., (2022). A scoping review of alternative methods of delivering ethics education in nursing. *Nursing Open*.; 9:2572-2585. DOI:10.1002/nop2.987
12. Wilkinson, M.R., Brown, A. B., & Haras, M. S. Appalachia (2023). Partnering to Create a Healthy Community Using Service Learning. *The Journal for Nurse Practitioners*. 19104792. DOI: org/10.1016/j.nurpra.2023.104792
13. Chao, K.Y., Liu, L. M., Ma, C. H. K., & Liu, H. Y., (2018). Developing and validating the Chinese version of service-learning outcome questionnaire. *Journal of Service-Learning and Social Engagement* (Taiwan). 119-28. https://www.researchgate.net/publication/327110931_Developing_and_validating_the_chinese_version_of_service_learning_outcome_questionnaire_Journal_of_Service-Learning_and_Social_Engagement_Taiwan
14. Husaini, D. C., Mphuthi, D. D., Chiroma, J. A., Abubakar, Y., & Adeleye, A. O., (2022) Nursing students' experiences of service-learning at community and hospital pharmacies in Belize: pedagogical implications for nursing pharmacology. *Plos One*17: e0276656. DOI: 10.1371/journal.pone.0276656
15. Fertman, C. I., White, G. P., & White, L. J., (1996). Service learning in the middle school: Building a culture of service. *National Middle School Association*. <https://eric.ed.gov/?id=ED435579>
16. Sandberg, M. T., (2018). Nursing faculty perceptions of service-learning: an integrative review. *Journal of Nursing Education*.; 57:584-589. DOI:10.3928/01484834
17. Pierangeli, L. T., & Lenhart, C. M., (2018). Service-learning: promoting empathy through the point-in-time count of homeless populations. *Journal of Nursing Education*. 57:436-439. DOI:10.3928/01484834-20180618-10
18. Ministry of Education (2008). Review results of the 2008 subsidy program for universities and colleges to establish service-learning courses. *Higher Education Newsletter*; Taiwan. <https://www.news.high.edu.tw/uploads/edm/201506162109059235>
19. Lee, H. L., Huang, C. M., (2024). Development of moral sensitivity questionnaire for nursing students in Taiwan. *Nagoya Journal Medical. Science*; 86:110-120. doi:10.18999/nagjms.86.1.110
20. He, Y. X., & Li, Y. C., (2022). Exploring the relationship among experiences in service-learning courses and learning effectiveness for college students: a case study of the Chihlee University of Technology. *Journal of Student Organizations*.10:51-7. [https://www.airitilibrary.com/Common/Click_DOI?DOI=10.6909%2fJSO.202201_\(10\).0003](https://www.airitilibrary.com/Common/Click_DOI?DOI=10.6909%2fJSO.202201_(10).0003)
21. Comrie, R. W., (2012). An analysis of undergraduate and graduate student nurses' moral sensitivity. *Nursing Ethics*. 19: 116-127. DOI: 10.1177/0969733011411399
22. Davis, C., Chan, B.Y., Ong, A.S., Koh, Y., Yap, A.F., Goh, S. H., et al. (2021). An evaluation of a medical student international service-learning experience in Southeast Asia. *Education for Health*.; 34:3-10. DOI:10.4103/efh.Efh_265_17