

Development of a Service-Learning Program

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Service-learning at the University of Pittsburgh School of Pharmacy began with the implementation of volunteer service opportunities which developed over three years into co-curricular service-learning. This report describes the development and integration of service-learning into the curriculum. Initially, a pharmacy faculty member established a relationship with care providers and administrators of two programs serving low-income communities, a summer camp for children in a housing project and a program providing free medical care to homeless and low-income patients. Pharmacy students participated in both projects; some volunteered while others formally registered for course credits. Survey results revealed that students perceived that the experience enhanced their AACP outcome competencies in the areas of clinical knowledge/skills, communication and interpersonal skills, empathy, professionalism, and social awareness. These results led to the implementation of an eight-hour/semester service requirement for second-year students in the Doctor of Pharmacy program. One hundred students completed this requirement for the Fall, 1997, and Spring, 1998, semesters. During the 1998-99 academic year, changes were made to further integrate service-learning into the curriculum. First-year students were required to participate in eight hours of community service per month, and second-year students assisted pharmacists in free clinics serving homeless and low-income patients once per semester. Although service-learning demands the commitment of faculty time and resources, it is feasible and valuable to integrate service-learning into a PharmD curriculum.

INTRODUCTION

In 1993, the AACP Commission to Implement Change in Pharmaceutical Education published the Background Paper II(1) that specified six "general outcomes/competencies that underlie the education of a professional person and citizen." These include: thinking abilities, communication abilities, facility with values and ethical principles, personal awareness and social responsibility, self-learning abilities and habits, and social interaction and citizenship. These outcomes encompass cognitive, social, professional, and personal dimensions of each student's development. Therefore, achievement of these goals relies on multiple learning strategies, many of which have already been specified in the Background Paper II. These strategies go beyond the formal lectures, to include active learning strategies; such as, simulations, presentations, and early practice experience. Service-learning is another strategy that has gained increased interest. This paper describes the development, implementation, and preliminary evaluation of service-learning at the University of Pittsburgh, School of Pharmacy.

WHAT IS SERVICE-LEARNING?

Service-learning, as defined by Jacoby, is "a form of experiential education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development. Reflection and reciprocity are key concepts of service-learning(2)." Dewey defined reflective thinking as "active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends."(3)

Reflection can take numerous forms; such as, class discussions, journals, writing assignments, class presentation, and video production. However, to serve as an effective method for learning, reflection must move beyond mere description. Cooper(4) describes the application of the "critical incident" technique introduced by Stanton(5) in 1995. Students kept journals that included in-depth analyses of incidents that changed their perspectives on the service experience. In the process, they pursued questions that guided them through a three-step process: description, analysis, and reflection. Examples of questions in the last step include, "What impact did the incident have on you? Why do you view it as 'critical'?" Students would move from describing the incident to critically analyzing it, and ultimately, to gaining meaning that could be further applied to future experiences. Students earn credit for learning, not for service.

Moreover, there is reciprocity in service-learning. Students and those they serve participate as both teachers and learners. Each participant has something to offer another while having the opportunity to learn from others(6). For example, a college student who teaches an inner-city child in an after-school program offers the child knowledge and companionship. In return, the child may reciprocate as teacher, although unknowingly, by sharing his/her perspective on special needs and methods used to cope with daily life in the inner city environment.

Unlike volunteerism or community service, service-learning ties the service experience to specific learning objectives. Learning is not left to chance but is planned and integrated with the experience. Fertman(7) suggests that service experience can be tied to learning objectives in one of two ways. The instructor uses the learning objec-

tives to guide the selection of service projects or sites. For example, learning objectives for a nonprescription drugs course may lead to projects that include health talks to seniors. Preparation for the talks enhances the students' knowledge of the clinical content of the nonprescription drugs course. Another strategy may be to start with a service theme and to use that experience to highlight specific objectives. For example, serving the homeless and low-income populations in a shelter or soup kitchen provides opportunities for students to develop competencies in the areas of social awareness and communication.

The service experience serves as a text as well as an expanded classroom from which the student will learn through practice, reflection, and discussion(7,8). Just as educators consider the quality of a textbook for learning, so, too, should the teacher consider the quality of the service experience? Dewey(9) indicated that there are two aspects to the quality of an experience: first, the immediate, that which a student perceives as agreeable or disagreeable; second, the influence of the experience on later experiences. Dewey stated, "Hence, the central problem of an education based upon experience is to select the kind of present experiences that live fruitfully and creatively in subsequent experiences."(9)

A teacher should consider the experience in terms of its professional and moral impact as well as the intellectual impact. Dewey wrote, "Perhaps the greatest of all pedagogical fallacies is the notion that a person learns only the particular thing he is studying at the time. Collateral learning in the way of formation of enduring attitudes, of likes and dislikes, may be, and often is much more important...."(10) He suggested that "growth" is not sufficient; one must consider the direction of that growth. The AACP outcome competencies provide a guide for the direction for student growth. In addition to thinking and communication abilities, a teacher should also consider how an experience might affect a student's social, professional, and ethical development.

Service-learning offers an additional active learning strategy. Although outcome data specific to pharmacy are preliminary, researchers in other disciplines already have demonstrated the benefits of service-learning in controlled studies(11,12).

THE UNIVERSITY OF PITTSBURGH'S EXPERIENCE

In implementing the PharmD curriculum, it was proposed that service-learning be incorporated to enhance outcome competencies in the areas of communication abilities, facility with values and ethical principles, personal awareness and social responsibility, and social interaction and citizenship. In 1997, the School of Pharmacy required students in the second professional year of the PharmD curriculum to participate in service-learning. In 1998, this requirement was expanded to include students in the first and second professional years. The implementation of this experience was the result of several pilot projects aimed at assessing the benefits and feasibility of including service-learning in the curriculum.

PILOT PROJECTS

Although there are numerous community agencies that welcomed University students as volunteers, the School of Pharmacy initially developed relationships with two pro-

grams that served the needs of the local community. Pharmacy students could participate in these programs as volunteers, or they could register for elective course credits. During this pilot phase, service-learning was not yet a requirement.

The Health of the Public Project

The Health of the Public Project is an academic-community partnership, which established the University of Pittsburgh Medical Center (UPMC)-Terrace Village Collaborative to address basic health care needs of an underserved community. Allequippa Terrace is located approximately 0.25 miles from the School of Pharmacy. The goals of the collaborative were to improve the health status of the residents and to develop population-based health education across the six schools of the health sciences.

In focus group meetings with residents, they identified crime and violence related to drug addiction as their primary health concern. They proposed the development of a summer day-camp for children aged 5-9 years old which would extend to an after-school program during the school year. Volunteers were requested to offer educational programs for the summer camp and to serve as mentors for children in the after-school program.

Pharmacy students participated in the Health of the Public Project from Summer, 1994, through Spring, 1997. Thirty-two student volunteers presented educational topics at summer camp or worked as mentors for the after-school program, supervising and organizing play activities and helping the children with homework. Volunteers were comprised of individual students who had interest in the service opportunities and of groups of students from pharmacy student associations and fraternities.

In addition to the volunteer opportunity, a fifteen-week, three-credit hour elective service-learning course was developed and offered to fifth-year BS pharmacy students. This course, Primary Health Care, was developed as a potential model for a service-learning course. It involved the Allequippa Terrace community as a service site, but was conducted apart from the summer camp/after school program. Students who registered for this course would be participating in service-learning, a different experience from that of students who volunteered. The course involved one hour/week in-class discussions with faculty or community mentors. The discussions revolved around assigned readings on primary health care topics. These included: the impact of poverty on health, managed care and Medicaid, the World Health Organization's concept of primary health care, community empowerment, the role of the pharmacist, drugs/alcohol and violence, domestic abuse, and work and welfare. Students also were required to provide service to the Allequippa Terrace community, but their participation did not necessarily have to be with the tutoring program. Initially, they spent time in the community to identify a problem they wished to address. Then they designed and implemented a project to address that problem.

Two students registered for the course over the two semesters that the course was offered. Subsequently a survey was conducted to explore reasons for the lack of interest in the course. The five most common reasons for not taking the course were: a lack of interest in primary care,

ignorance of the fact that the course was offered, a mismatch of the time slot with the student's schedule, desire for a course that was less demanding, and concern about safety in the neighborhood.

Program for Pharmaceutical Care to Underserved Populations

The Program for Pharmaceutical Care to Underserved Populations is comprised of volunteer pharmacists and students who work with volunteer interdisciplinary primary care teams to provide free health care to homeless and low-income populations in Pittsburgh. The program has been in operation since January, 1995, and operates seven free clinics located at five different sites. These sites include: two Salvation Army Drop-In Centers, two Shelters for Women, and one Shelter for Homeless Men. Pharmacists' activities include: conducting medical and medication histories, consulting with the team regarding drug-related problems, dispensing medications, counseling patients, and documenting the services provided in each patient's chart.

The Program for Pharmaceutical Care to Underserved Populations offers pharmacy and pre-pharmacy students opportunities to volunteer in the clinics. It also serves as clinical rotation sites for fifth-year BS pharmacy students, PharmD students, and pharmacy residents. The types of activity and the level of clinical involvement vary according to each student's level of training. First-year students observe the medical and pharmaceutical services provided and assist the pharmacist in clinic. Advanced students actively participate in conducting medical and medication histories, obtaining vital signs, observing patient examinations, participating in team discussions, assisting with medication and dosage selection, researching medication questions, counseling patients under a pharmacist's direction, and documenting services provided in the patients' charts.

Students began to participate as volunteers in the free clinics in Fall, 1995. Between Fall, 1995, and Spring, 1998, 99 students participated in the clinics. As of June, 1998, two pharmacy residents, 10 PharmD students, and 10 BS students have participated in the clinics as part of a required clinical rotation.

STUDENTS' PERCEPTIONS

After the volunteer experience, students in both the Health of the Public Project and the Program for Pharmaceutical Care to Underserved Populations were asked to complete an open-ended questionnaire. Students were asked to respond to the following questions: What do you think about the experience? How did the experience make you feel? What are the three most important lessons you learned from the experience?

Qualitative student surveys revealed that students perceived the service experiences as valuable in teaching them more than just clinical knowledge and skills. Survey results suggest that students perceived the service experience as providing opportunities to practice communication skills, interpersonal skills, empathy, professionalism, and to enhance their social awareness. These outcomes are consistent with some of those outlined by AACP's Background Paper II. However, one must consider the possibility that these positive results may be due to a self-

selection process. The students' positive perceptions may have been a result of their natural interest and desire to serve and to develop competency in the outcome areas previously indicated.

The experiences described above involved both voluntary experiences and service-learning experiences; *i.e.*, clinical rotations with the Program for Pharmaceutical Care to Underserved Populations and the Primary Health Care course with the Health of the Public Project. These experiences with the various potential models for service-learning offered important lessons. First, students find community service, voluntary experience or for-credit experience, to be educational. Second, there is ample interest within the community to partner with the School of Pharmacy in programs that have potential for benefiting both the students and the community. Third, although a 15-week three-credit course was not popular with the students, a structured course that involved different topics and is offered for fewer credits may still be worth pursuing. Last, service-learning has potential to offer students experiences that will enhance their AACP competencies; however, to offer service-learning to a large number of students will require a different model than those that have been tried.

INCORPORATION OF SERVICE-LEARNING INTO THE CURRICULUM

Although service-learning had been made available to students between 1994-1997, these experiences were not required of all students. Subsequently, steps were taken to incorporate service-learning into the curriculum as a requirement for the PharmD degree.

The initial step was to obtain permission from the curriculum committee to make eight hours per semester of service a requirement for students in the second professional year. This requirement applied to both the fall and spring semesters. In Fall, 1997, 102 second-year (in a four-year curriculum) PharmD students were required to complete an eight-hour service requirement and write a reflective paper on the experience. One hundred and one students completed the required experience. Due to logistical constraints of finding service sites for over 100 students, a decision was made to allow students to complete their service hours at any agency of their choosing. Some completed the required hours at more than one community site. The most common sites were nursing homes or assisted living facilities for the elderly or the physically/mentally disabled (25 students). Other commonly selected sites included assisted living facility for those with psychiatric illness (18 students), homeless shelter/clinics (16 students), food banks and soup kitchens (10 students), and temporary housing for families of patients with life-threatening illnesses (six students). After careful review of students' papers reflecting upon their first-semester service experiences, it became clear that students benefited most from one-on-one contact with people. To enhance the educational value of the experience, the service activities must be tied to specific learning objectives that will enhance specific skills and curricular content. In Spring, 1998, students were required to select an experience that would allow them one-on-one contact with a service recipient. They were given an assignment that intentionally addressed communication skills and the human dimension of prac-

tice. Students were required to talk with a client and “get to know” the individual, as opposed to interviewing the person in the pharmacist-patient context. Then, each student wrote a one-page paper telling the person’s story and discussing the lessons learned from talking with that individual. One hundred of 101 students completed the service requirement in the Spring, 1998, semester.

Evaluation of this requirement involved a student survey that was developed and administered after the Fall, 1997, experience. Of the 101 students who completed the eight hours of community service, 99 students completed the survey. The format of the survey was comprised of positive and negative statements about the service experience for which students were asked to indicate their level of agreement. A Likert scale was used, with a range of 1-5 indicating “strongly agree” to “strongly disagree.” Survey results revealed that 33 percent of students thought the requirement should be eliminated. Fifty-seven percent of students did not think that the eight-hour experience should be required for more than one semester. Despite the lack of enthusiasm for the requirement, the majority of students thought that the experience was valuable. Sixty-eight percent of students thought the experience was educational. Seventy-three percent of students thought that the experience gave them the opportunity to learn first hand about empathy; 78 percent of students thought the experience enhanced their awareness of others in need; and 81 percent of students thought the experience highlighted the importance of respect for the human person. Sixty-four percent of students thought the service requirement was effective in enhancing the AACP outcome of personal awareness and social responsibilities. The reasons for the discrepancy between students’ attitudes toward the requirement and the students’ perception of the value of the experience requires further investigation. However, verbal feedback from students points to at least two possible reasons for the discrepancy: (i) the requirement demands additional time of students who already feel stressed by a demanding curriculum; (ii) some students think that making service a requirement takes the spirit of volunteerism out of the experience. This one-year experience with the service-learning requirement resulted in a decision to expand the requirement in the 1998-99 academic year to include both the first and the second professional years of the curriculum.

The goal of the first-year service experience was to enhance communication skills, interpersonal skills and social awareness. In Summer, 1998, two faculty members personally visited 19 community agencies that served diverse populations. These populations included the elderly, children, people with psychiatric illness, those who are terminally ill, people with disabilities, homeless people, and those suffering from chemical addiction. Eighteen community agencies agreed to participate as service-learning sites. In Fall, 1998, and Spring, 1999, students in the first professional year were required to provide 24 hours (eight hours per month) of service at their assigned sites. This experience was required as part of their experiential learning. Written assignments in the form of essays that addressed questions related to the experience were due monthly. Moreover, the class met monthly to discuss their experiences in small groups of six students. The monthly class meetings concluded with presentations by each group on the topic of discussion to the full class of 90 students.

The goal of the service experience for second-year students was to develop clinical skills. Beginning in Fall, 1998, students in the second year of the professional program were required to participate in the Program for Pharmaceutical Care to Underserved Populations. They attended one clinic per semester. Although it would have been ideal to require clinic attendance once every two weeks, this possibility was limited by the number of clinics available to take students. The activities in which the students were involved were the same as those described previously for the Program for Pharmaceutical Care to Underserved Populations. Further development of this service-learning experience will involve developing assignments that require students to apply and demonstrate achievement of specific clinical skills, such as conducting a medication history or counseling patients on appropriate medication use.

RESOURCES REQUIRED

Administration of both the Health of the Public Project and the Program for Pharmaceutical Care to Underserved Populations, in addition to organizing the service-learning experience, initially required 33 percent of a faculty member’s time. Moreover, one undergraduate student assistant spent forty hours per week during the summer and 5-10 hours/week during the school year with the programs. Twelve pharmacist volunteers contributed approximately 300 hours per semester to staff the clinics.

Service opportunities depend on community resources and needs, which constantly change. The Health of the Public Project has since combined its after-school program with another community organization’s program, and pharmacy students no longer volunteer with the project. However, the Program for Pharmaceutical Care to Underserved Populations continues to accept more students. Due to the expansion of the program, an Americorp worker was hired to assist with the administrative needs for the Program for Pharmaceutical Care to Underserved Populations.

The Program for Pharmaceutical Care to Underserved Populations is time-consuming to administer because the School of Pharmacy developed, implemented, and maintained this service project. This is in contrast to simply developing relationships with community organizations that want student participation. The University of Pittsburgh currently provides service-learning opportunities using both strategies.

DISCUSSION

Service-learning was successfully implemented at the University of Pittsburgh and will continue to expand. It has also been implemented at a number of other pharmacy schools(13-16).

Although the University of Pittsburgh School of Pharmacy initially developed and subsequently maintained a service project that involved faculty and community pharmacist volunteers, a school need not operate its own service project to implement a service-learning program. Rather, one can and should take advantage of available resources within the university and the community. For example, the University of Pittsburgh has a student volunteer outreach web page that contains a list of over 100 community agencies that want student volunteers. This list serves as a

resource for service-learning opportunities.

The amount of time and resources required to implement and integrate service-learning into the curriculum will depend upon the model of the program. Service-learning can be integrated to greater or lesser extent depending upon the goals of the program and the resources available. Several models have been described in detail(17-19).

A one-time or short-term service-learning experience can be an effective introduction to service learning for first-year students. Examples of projects include participating in a one-day fundraising activity, serving food at a soup kitchen, or visiting seniors at a nursing home(17).

Another model is on-going co-curricular service-learning where students participate in service, but the activities are not integrated into a course(18). Because scheduled class time is not part of the experience, planning should include time for structured reflection. This was the model used during the 1997-98 academic year to implement the eight hours/semester service requirement at the University of Pittsburgh. To conserve faculty time, students were allowed to select their own sites, but with faculty approval. The drawback is that the faculty has less control over the quality of the experience. This can be enhanced by the faculty investing time into developing a relationship with selected service agencies and working closely with them to structure the experience. For the 1998-99 academic year, this was the model that was eventually adopted to develop the service-learning program for first professional year students at the University of Pittsburgh. This model was previously implemented at the University of Wisconsin in the 1997-98 academic year(20).

An integrated model incorporates service into a course. The service experience serves to enhance learning of the course content and/or development of attitudes and skills that are part of the course objectives(19). This model requires additional faculty time to plan, develop relationships with community agencies, and supervise student activities. However, this model also maximizes the benefits of the service experience in enhancing the course objectives(11,12).

Numerous models have been implemented in a number of pharmacy schools(13-16,20). Regardless of the model, service-learning exposes students to experiences that can enhance knowledge, skills, and personal/professional development. Implementation of a service-learning program must be tailored to the needs of both the curriculum and the community. The scope of the program will depend upon the resources available to organize and maintain the program. Ongoing assessment of the program is essential to its continued success. Evaluation should include feedback from students, community agencies, and, if appropriate, from individuals served by the program. This may take a number of formats, but the simplest is to employ a written survey.

Service-learning at the University of Pittsburgh began with the implementation of volunteer service opportunities which developed over three years into co-curricular service-learning. Although service-learning demands the commitment of faculty time and resources, it is feasible and valuable to integrate service-learning into a PharmD curriculum.

Acknowledgements. The author acknowledges the assis-

tance of Marci Kropff, PharmD and Jodie Campbell, PharmD in analyzing the data, and the assistance of Brian Piper, BS in analyzing the data and reviewing the manuscript. This project was supported by the Program for Health Care to Underserved Populations, Department of Medicine, University of Pittsburgh, and the AACP Grant for New Investigators, with funding from American Foundation for Pharmaceutical Education and the Burroughs Wellcome Fund.

Am. J. Pharm. Educ., **63**, 41-45(1999); received 8/3/98. accepted 12/21/98.

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