

Responding to a Natural Disaster With Service Learning

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This article describes a service learning experience at the University of North Carolina School of Medicine. Responding to a nearby natural disaster, the curriculum was modified to allow 71 second-year medical students to provide needed aid to affected communities and also fulfill learning objectives important to their training. The description and the lessons learned provide an example of how service learning experiences can be implemented to enrich a curriculum.

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Service learning is increasingly seen as a way to broaden the education of health professional students by offering a population and community perspective of health and illness.¹ Service learning opportunities are intended to instill an ethic of community service and social responsibility in health professional schools' students while at the same time allowing the students to provide a needed service for a community.^{2,3}

In the fall of 1999, the University of North Carolina (UNC) School of Medicine quickly revised its curriculum to respond to a large natural disaster. On September 15, 1999, Hurricane Floyd had devastated the eastern part of North Carolina. The accompanying floods covered 4.2 million acres, destroyed 15,000 homes, caused an estimated \$6 billion in damage, and claimed 51 lives.⁴ In close cooperation with the affected communities, the school implemented a service learning experience for its students. The rapid pace of unfolding events and the scope of the tragedy made the effort difficult. It succeeded by following the principles of service learning: responding to those with defined needs, providing training and support for students, undertaking meaningful action, and reflection and evaluation.⁵

Background: Service Learning

Service learning joins two concepts: serving the needs of the community and allowing students to meet defined learning objectives.⁵ Achieving this balance is what separates service learning from other service activities, where the primary emphasis is on the service being provided and the primary intended beneficiary is clearly the service recipient.³

Several important components of service learning have been described. First, the learning objectives of the experience should be clearly defined by those in charge of the curriculum, but the experience itself should directly respond to the needs of the community. Community voice is essential if such experiences are to build bridges, make change, and solve problems. Second, a training or orientation program should help students partner with communities and avoid misunderstandings. Such preparation should clarify the learning objectives to be reached and the service to be provided. Third, the service should be meaningful and valuable to the community. The students should feel that they are making a measurable difference and that their time is used well. Fourth, after completion of the experience, reflection should allow the experience to be put in a broader context and allows the students to make the connection between the service experience and their learning. Finally, an evaluation of the experience should be conducted to help improve service learning for future students.⁶

Service learning as described above has gained popularity at all levels of education over the past decade. In a recent survey of US colleges and universities, 11,800 service learning courses were being offered.⁷ Health professional schools are also beginning to incorporate this type of learning into their curricula.^{3,8}

Clarification of the educational merits of service learning have contributed to this rise in popularity. Service learning is based on the tenets of experiential learning long supported by learning theorists and confirmed by a set of recent cognitive science experiments.⁷ Learning occurs through a cycle of action and reflection, not simply through being able to recount what has been learned through reading and lecture. Further, service learning is able to link personal and interpersonal development with academic and cognitive development.⁷ Students learn not only about the subject matter but also about themselves. This self-awareness is particularly important as students develop into independent health care providers.⁹ Finally, service learning links education to citizenship.⁷ Students function as contributing citizens while learning information that is crucial to their future careers. In this way, civic responsibility hopefully becomes part of their professional identity instead of remaining a separate "burden."

The recent experience of UNC medical students working in flooded eastern North Carolina is an example of service learning that proved useful to both the students and some particularly needy communities.

Description of the Service Learning Experience

Responding to Those With Defined Needs

Within days after Hurricane Floyd hit North Carolina, it was clear that large portions of the eastern part of the state had suffered devastating losses. There was a desire among faculty and students at UNC to help affected areas of the state. The chair of the Department of Family Medicine was appointed by the dean of the medical school to coordinate the placement of volunteer physicians. The chair worked closely with the governor's office and the Federal Emergency Management Agency. Physicians, given a relatively well-defined set of skills, were easy to place into emergency clinics in communities without health care. It was more difficult to know how to find appropriate communities for interested medical students, since they were not fully qualified to offer health care but wanted to help. In addition to being able to make use of the service that the students could offer, such communities would need to have a structure to put a large group of volunteers to work. We (a small group of medical school faculty members) located such a community by initially contacting organizations throughout the affected area by telephone. This substantially narrowed the possible communities. We then visited the sites of the few remaining communities to verify the existence of sufficient need and the organizational capacity to accom-

modate a large number of students. Only one organization that we approached was able to accommodate and coordinate more than 50 students. The United Way in Pitt County was able to locate sleeping arrangements for all students and place work groups of 2–20 students in a wide range of sites.

The problems facing the communities were profound and varied. Making use of assessments by the Federal Emergency Management Agency, the Red Cross, the United Way, and local community groups, we came up with a list of tasks most needed by the communities. Damaged and flooded houses needed to be cleaned or emptied, thousands of homeless people needed food and clothing, and animals stranded in shelters needed care. Since detailed medical knowledge was not needed for most of these tasks, the group of medical students that could be most easily mobilized for such a task was the preclinical students.

To make the experience into an actual service learning experience, it was crucial to identify curricular goals that could be met by participation in this experience. A community-based Introduction to Clinical Medicine course for second-year students was ideally suited for this purpose. The goals of this course are to introduce students to essential clinical skills that include interviewing, physical examination, clinical reasoning, and working effectively with health care teams and communities. This latter goal would be enhanced by participation in this service learning opportunity. The second-year students were further suited for the task in that they were already scheduled to spend a week in physicians' offices across North Carolina during the first week of October as part of the community component of their coursework.

Students were given the choice of participating in the previously planned curriculum or participating in the service learning experience in Pitt County. Students who chose to participate in the service learning experience would have to forego experiences related to interviewing, physical examination, and clinical reasoning that were part of the previously planned curriculum. Students understood that it would be their responsibility to achieve these goals on their own at a later time. Of the 160 second-year students, 71 chose to participate in this service learning opportunity.

Training and Support for the Students

An enthusiastic group of students met at the medical school for a 4-hour orientation on Monday morning, October 4, with gloves, boots, masks, sleeping bags, food, and water that had been packed at home. To prepare students, the orientation included a presentation by personnel from the Federal Emergency Management Agency on how to deal with potential environmental dangers. A psychiatry faculty member taught students how to help victims cope with loss. Recognizing that communication would be crucial to the success of

the experience, student group leaders were selected to maintain contact with the school, providing daily updates to the course coordinator.

Meaningful Action

On Tuesday, the students carpooled to Greenville, NC, located in the area of the state that was hardest hit. The United Way volunteer coordinator met the students and presented them with the tasks that needed to be accomplished:

Cornerstone Baptist Church—they need 10 people for sorting, packaging, and distributing donations . . . the Humane Society—they need two people to clean kennels, walk dogs, and sort donations . . . apartment housing for East Carolina University students—they need 20 students to help strip the apartments down to the studs . . . in Grifton, a small town outside Greenville, they need 10 people to join the efforts to begin to sort through and strip down the wet, moldy houses in the low-lying areas.

As each task was read, students volunteered. The list went on until all 71 students had been assigned a task.

The students spent the rest of the week engaged in hard physical and emotional work. Students stripped Sheetrock® off walls and carried heavy furniture out of people's houses. They worked side by side with the owners of those houses, people who had little to start with and now had lost everything. Students also learned the value of playing a small role in a larger effort. One student who was assigned to putting together brooms was initially disappointed with this unglamorous job but later came to take pride in doing this job well so that others could use his brooms. Student leaders worked with the United Way to keep all students engaged and safe. When students were no longer needed by an organization, they were quickly assigned to another location. Daily reports on the type of activities in which the students were engaged, as well as their location, were phoned back to the course coordinator at the medical school.

Reflection and Evaluation

It was important to evaluate the experience not only after its completion but also while it was happening. Student leaders communicated with a contact at our school on a daily basis to ensure that the experience was consistent with the broad goals of service learning and that students remained safe. No injuries or dangerous events were reported. In a survey completed by 82% of the students on their return to the Chapel Hill medical school campus, no student reported this being "not a useful experience," 7% reported "a good experience," 45% reported "an excellent experience," and 48% reported "one of the best experiences to date in medical school."

The open-ended reflections that students were asked to write on their return provided the most powerful evaluation of the experience. Through their comments, it was clear that the students had learned important lessons about the influence of communities on health. Several students wrote that this week was the most formative week in their medical school career. One student wrote, "Talk about teaching team-building skills, compassion, understanding your patients' lives!!!" Many students struggled with how resources are allocated. One student wrote:

In a perfect situation, there would be enough volunteers to help everyone. But, the reality was that the devastation was immense, and even 71 people could only make a dent. The tasks to which we were assigned were decided by organizations like the United Way, who had the entire county to look after. In Grifton, there were families on their sunken-in porches with pieces of their life strewn all over, wondering if they, too, could possibly get help. Many of us felt that the young volunteers with the strong backs should be aimed at helping these people—the most desperate—first. Was our role to give the most benefit as we saw it? Or, as volunteers there to serve the community, should we fulfill the role that the community sees most necessary and thereby observe the wisdom of members of the community to best identify its needs?

Students learned about the challenges that organizations face in providing relief:

What we seemed to see in Grifton was a temporary break in the communication between the key organizations like the Salvation Army, Red Cross, churches, and the United Way and the actual families that needed help.

Students also gained a better understanding of how individuals and communities cope with natural disasters:

[in a house in which I worked] I found one watermarked picture of her grandson and asked her if she wanted to save it, and she said, "That's OK. I just thank God that he is still alive so that I can take more pictures of him." The spirit of so many people we met from the disaster was just like this. When we left her house, she hugged us and said, "God bless you" and told us to get along to someone who needed help more than she did. As if she, who lost almost everything and was certainly not strong enough to tear the place down by herself, was sure she would get by one way or another.

Students shared these reflections in writing but also in presentations to their peers in small-group seminars.

Discussion

This experience provides useful lessons on how to recreate such learning opportunities for future students, in the hopeful absence of similar natural disasters. Many of these lessons reinforce the standard principles of service learning. But, we also learned lessons about which we were not previously aware.

Consistent with the experience of others,⁵ we found that seeking community input early was crucial to the success of the experience. While many of the students might have been more excited to do “doctor-type” work, the needs of the community were at that time mostly nonmedical. We adjusted the experience accordingly. It was also important, however, that we considered factors other than community need. While some communities had greater need at the time, a certain organizational infrastructure needed to be in place to successfully and safely put our students to work. The faculty members’ visit to the communities in advance of the experience helped ensure that the appropriate balance between community need and infrastructure existed.

It is likely that we would have responded more closely to the needs of individual communities if we had been able to work with individual community groups instead of a larger umbrella organization like the United Way. We would probably have formed closer community partnerships. It is unlikely, however, given the time constraints, that we would have successfully implemented the experience had we chosen to coordinate with many smaller community groups.

Like other successful service learning experiences elsewhere,^{5,6} ours gave significant control to students. It was not a required assignment expected of all students. Students decided among themselves who would help out where, and the goals of the experience were loosely stated to allow students to guide their own learning. Giving this degree of control to students has some associated costs. For students who did not participate in the experience, alternative methods must be found to achieve the curricular objectives. Objectives that are more loosely stated are also more difficult to evaluate. We believe, however, that the benefits outweigh the potential disadvantages. Giving students control of their learning created a degree of energy and enthusiasm that might not have been present if this had been a required assignment. Students effectively learned about the relationship of health to communities and hopefully were inspired to do further service work. Further, the students’ energy and enthusiasm may have contributed to the healing process for people living in the communities where the students worked.

Our experience highlighted the fact that short-term service learning experiences can be powerful. The immediate rewards of such a short-term experience may

prove to be a powerful incentive to students to continue long-term service activities. Such short-term experiences may also be easier to fit into a curriculum organized in blocks. The danger in creating such short-term experiences is that people in the community that is being served may benefit little and, in fact, become frustrated and disillusioned by unmet expectations. A potential solution for an academic institution may be to partner with a small number of communities. Short- and long-term experiences in those communities can be tailored according to the needs of the community and build on themselves where appropriate. A given group of students may leave after a short time, but the people in the community know that other students will follow shortly to continue the project.

We were struck by the power of having a relatively large number of students work together. The students were able to see the results of their combined effort. Perhaps even more importantly, on their return, the students had a large number of other students with whom they could discuss and process the experience. The hallway conversations about the effort continued for weeks. Much has been written about the power of reflection in service learning.⁵⁻⁷ This informal reflection and processing inadvertently created by putting a large number of students together may have been more powerful than the written reflections and group reflections that we formally assigned as part of the course.

While the feedback from the students provided us rich information on what the students had learned, in retrospect we wished we had undertaken a more formal evaluation of how well we had met the needs of the communities that we served. The United Way provided us with anecdotal information on how pleased community members were with the work that students did. Still, a more formal evaluation of the community would have helped maintain the balance between service and learning that is so important in service learning.

Conclusions

We hope that by sharing our experience and the lessons we learned, we will facilitate the implementation of service learning projects not only at our school but also at other institutions. Our experience helped demonstrate that service learning helps students understand the interconnectedness between health and communities and can instill in students an ethic of community service and social responsibility, while at the same time providing a needed service for a community.

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